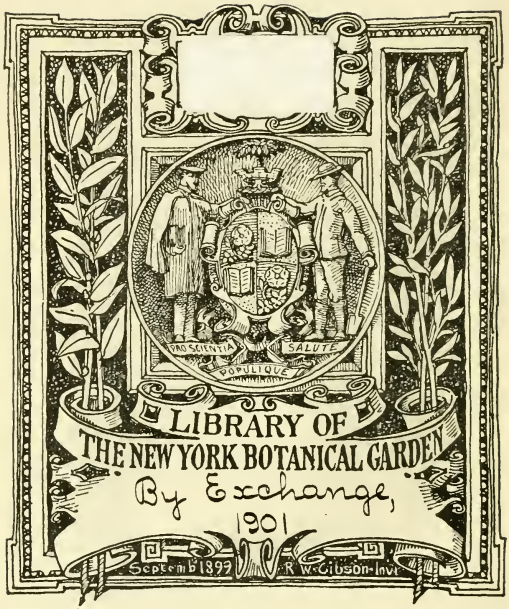
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TRANSACTIONS

OF THE

California State Agricultural Society

DURING THE

NEW YO
BOTANI

YEAR 1877.

SACRAMENTO:
STATE OFFICE : : : F. P. THOMPSON, SUPT. STATE PRINTING.
1878.

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1877

STATE BOARD OF AGRICULTURE FOR 1877.

PRESIDENT:

MARION BIGGS	Butte County.

DIRECTORS:

L. U. SHIPPEE	Stockton.
DANA PERKINS	Placer County.
W. P. COLEMAN	Sacramento.
M. D. BORUCK	San Francisco.
GEORGE A. JOHNSON	San Diego.
MIKE BRYTE	Sacramento.
CHRIS. GREEN	Sacramento.
ROBERT HAMILTON	Sacramento.
E. C. SINGLETERRY	Santa Clara.

OFFICERS OF THE BOARD:

ROBERT BECK, *Secretary*	Sacramento.
L. A. UPSON, *Treasurer*	Sacramento.

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CONSTITUTION

OF THE

CALIFORNIA STATE AGRICULTURAL SOCIETY.

ARTICLE I.—NAME.

SECTION 1. This Society shall be called "The California State Agricultural Society."

ARTICLE II.—OBJECT.

SECTION 1. It shall be the object of this Society to encourage the cultivation of the soil, and the general development of all the agricultural resources of this State.

SEC. 2. To foster every branch of mechanical and household arts calculated to increase the happiness of home life.

SEC. 3. To extend and facilitate the various branches of mining and mining interest.

ARTICLE III.—MEMBERSHIP.

SECTION 1. *Annual Members.*—Any person who has, during the year eighteen hundred and sixty-five, or who shall, during this year, or any subsequent one, pay into the funds of this Society the sum of five dollars, may become a member of the same; such membership to expire on the thirty-first day of the following December.

SEC. 2. *Life Members.*—Any person may become a member for life by the payment of fifty dollars; or, if already a member, by the payment of forty dollars, and shall thereafter be exempt from all dues and assessments.

SEC. 3. *Honorary and Corresponding Members.*—Any person whom the Board shall propose may be elected an honorary or corresponding member, and shall enjoy, free of charge, all the privileges of the Society, except voting and holding office.

SEC. 4. *Privileges of Members.*—Any citizen of this State, being a member of this Society, shall be eligible to office, entitled to vote, and enjoy the free use of the library, under the rules of the same, and have free admission, accompanied by his wife and minor children, to all the exhibitions of the Society, and shall be permitted to compete for premiums in any or all departments.

SEC. 5. *Expulsion of Members.*—Any member who shall present for exhibition any article or animal which he is not entitled by the rules of the Society to exhibit, or who shall attempt to deceive, or be guilty of a breach of good faith toward the Society, may be expelled by a vote of two-thirds of the members present at any meeting of the Society; *provided, always,* that no member shall be expelled unless written notice of the alleged offense shall have been served on him, or left at his usual place of residence at least twenty days previous to the action.

ARTICLE IV.—OFFICERS.

SECTION 1. The officers of this Society shall consist of a President and nine Directors, who shall constitute a State Board of Agriculture, five of whom shall constitute a quorum. They shall elect a Treasurer and Secretary, not members of the Board. They may also appoint, annually, as officers of the Board, a chemist, a botanist, a meteorologist, a geologist, a matallurgist, an ornithologist, and an entomologist, and define the duties of each. They may appoint such committees on the various departments of agriculture, mining, and manufactures, either generally, or for specific purposes, as they may deem important for the best interests of the State, and require such committees to report the results of their investigations to the Board at such times as may be named by them.

SEC. 2. *Duties of President.*—The President shall preside at all meetings of the Board, and of the Society; shall have power to call special meetings of the Board when necessary, and at the written request of ten members may call extra meetings of the Society; shall appoint all

meetings not otherwise provided for; shall vote only at the election of officers, and in case of a tie; and shall sign all financial and official documents emanating from the Society, and not otherwise provided for. In the absence of the President from any meeting of the Board or Society, any Director may be called to the chair, and during such meeting, and for the completion of any business transacted, or ordered at the same, shall have the same powers as the President.

SEC. 3. *Duties of Secretary.*—The Secretary shall conduct the correspondence of the Society, keeping in a separate book copies of all letters written in the name or on behalf of the Society, holding the same free to the inspection of any member of the Society, at any regular meeting of the same. He shall also receive and file all letters addressed to the Society, holding the same subject to the Board of Directors. He shall attend all meetings of the Society and the Board, keeping a full record of the doings of each in a separate book, and shall furnish a copy of the proceedings of each meeting to the Committee on Publication within five days after the close of such meeting. He shall prepare and publish all notices of meetings, shall keep a roll of all standing committees, and call the same (noticing absences) whenever desired to do so by the Chair; shall sign all certificates of honorary and corresponding memberships, and forward the same to those entitled to receive them. He shall keep, in a book prepared for that especial purpose, the name and address of every member: shall prepare and sign all gratuitous or complimentary cards or tickets of admission; shall countersign all diplomas, certificates of merit, etc., awarded by the Society, and forward the same to their respective claimants. He shall be ex officio Librarian; shall keep the seal, and all the plates, dies, engravings, etc., belonging to the Society, and shall cause to be struck therefrom such medals and impressions as may, from time to time, be required. He shall have charge of all specimens, models, plants, seeds, books, etc., and arrange, prepare, or distribute the same under the direction of the Board. He shall prepare all reports to be made by the Board to the Society, and all reports to be made by the Society to the State. He shall receive all moneys due or payable to the Society, and pay the same to the Treasurer, taking his receipt therefor; shall hold all bonds filed by officers of the Society for the faithful performance of their duty, and all vouchers for every class of expenditure. He shall countersign all drafts ordered by the Board, and all certificates of annual and life membership, and keep an account of the same in a separate book, as they are issued, and shall, in December of each year, prepare a tabular statement of the receipts and expenditures of the Society, according to the law incorporating the same. For which services he shall receive such compensation as the Board shall decide to pay.

SEC. 4. *Duties of the Treasurer.*—The Treasurer shall receipt for all funds at the hands of the Secretary, and shall disburse the same only on the order of the Board, attested by the President and the Secretary. He shall also hold in trust all certificates of stock, bonds, notes, deeds, or other evidences of debt or possession belonging to the Society, and shall transfer, invest, or dispose of the same only by direction of the Society, or by a written order of the Board. He shall, within ten days after his election, file with the Secretary a bond for the faithful performance of his duties; said bond to be approved by the Board, and to be in a sum equal to twice the combined amounts of the funds on hand and the estimated revenue for the year; and shall, at the annual meeting, make to the Society a detailed report of all his doings; for which services he shall receive such compensation as the Board shall, from time to time, decide to pay.

SEC. 5. *Duties of the Board.*—The Board of Managers shall have the general and financial management of all the affairs of the Society in the interim of annual meetings. It shall fill all vacancies occurring between elections, and shall make the necessary preparations and arrangements for all meetings, fairs, exhibitions, etc. The Board shall also have power to make its own by-laws (not inconsistent with this Constitution), and arrange the time and place of its own meeting.

ARTICLE V.—STANDING COMMITTEES.

SECTION 1. *Committee of Finance.*—The Committee of Finance shall consist of three (the President and Secretary being two), whose duty it shall be to audit the Treasurer's account, to examine and approve all bills before they are paid, to have general supervision of the finances of the Society, and to report their doings in full to the Board whenever called on so to do.

SEC. 2. *Library Committee.*—The Library Committee shall consist of three (the Secretary being one), whose duty it shall be to have the general supervision of the library and cabinet, to make all necessary rules and regulations for the government of the same (said rules and regulations being subject to the approval of the Board), to suggest such means for the safe-keeping and enlargement of both the library and cabinet as they may deem expedient, and to make a full report of their doings, together with the state of the department under their charge, at each annual meeting.

SEC. 3. *Visiting Committee.*—The Visiting Committee shall consist of three, whose duty it shall be to visit and examine all farms, orchards, vineyards, nurseries, field crops, mining claims, ditches, mills, etc., which may be entered for competition, and which shall require examination at other times and places than the annual fair: to award premiums for the same according to the schedule, and recommend such gratuities as they may deem proper, and make a full report to the Board at least one day previous to the annual meeting.

SEC. 4. *Committee on Publication.*—The Committee on Publication shall consist of three (the President and Secretary being two), whose duty it shall be to contract for and superintend, under the direction of the Board, all printing and publishing necessary for the prosperity of the Society.

ARTICLE VI.—DONATIONS AND BEQUESTS.

SECTION 1. All donations, bequests, and legacies to this Society, designated by the donors for any particular purpose embraced within the objects of the Society, shall be with strict fidelity so applied; and the name of each donor, together with the amount and description of such donation, and the object for which it was designated, shall be registered in a book kept expressly for that purpose.

ARTICLE VII.—MEETINGS AND EXHIBITIONS.

SECTION 1. *Exhibitions.*—The Society shall hold an annual fair and cattle show in the City of Sacramento, and may, at its discretion, hold such other exhibitions as it may deem conducive to the interests of agriculture.

SEC. 2. *Annual Meeting.*—The annual meeting shall be held at the Capital of the State, at such time during the month of January in each year as the Board may designate, at which time all the officers from whom reports of the preceding year's service are required shall present the same, and all officers for the ensuing year shall be elected by ballot; and all officers shall continue in office until their successors are duly qualified.

SEC. 3. *Special Meetings, how called.*—No special meeting of the Society shall be called but upon thirty days' notice in the columns of a newspaper published in each of the Cities of San Francisco, Sacramento, Marysville, and Stockton; nor without a request signed by at least ten members.

SEC. 4. *Proxy Voting.*—It shall not be admissible for any member to vote by proxy in any meeting of this Society, or its Board of Managers.

SEC. 5. *Quorum of the Society.*—At any meeting of this Society, fifteen members (a majority of whom shall represent counties other than the one where the meeting shall be held) shall constitute a quorum.

ARTICLE IX.—OFFICE AND ROOMS.

SECTION 1. The office, rooms, library, and cabinet of the Society shall be permanently located at the Capital of the State.

ARTICLE X.—AMENDMENTS.

SECTION 1. Amendments to this Constitution must be presented in writing at an annual meeting, when, if unanimously agreed to, they shall be adopted; but if there be objection, and a majority consent thereto, they shall be spread upon the minutes and lie over until the next annual meeting, when they shall be read, and if, after due discussion, two-thirds of all the members present vote for the amendments, they shall be adopted and become a part and parcel of this Constitution.

ARTICLE XI.—EFFECT.

SECTION 1.—This Constitution shall take effect from and after its passage.

I certify the foregoing to be a true copy of the Constitution of the California State Agricultural Society, as amended by unanimous consent at the annual meeting of the Society, held on the twenty-eighth day of January, A. D. eighteen hundred and sixty-nine.

ROBT. BECK, Corresponding Secretary.

A COMPILATION

OF ALL THE LAWS NOW IN FORCE RELATING TO OR AFFECTING THE STATE AGRICULTURAL SOCIETY.

AN ACT

TO INCORPORATE A STATE AGRICULTURAL SOCIETY AND APPROPRIATE MONEY FOR ITS SUPPORT.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. There is hereby established and incorporated a Society to be known and designated by the name and style of the "CALIFORNIA STATE AGRICULTURAL SOCIETY," and by that name and style shall have perpetual succession, and shall have power to contract and be contracted with, to sue and be sued, and shall have authority to have and use a common seal, to make, ordain, and establish, and put in execution such by-laws, ordinances, rules, and regulations as shall be necessary for the good government of said Society, and the prudent and efficient management of its affairs; *provided*, that said laws, ordinances, rules, and regulations shall not be contrary to any provision of this charter, nor the laws and Constitution of this State or of the United States.

SEC. 2. In addition to the powers above enumerated, the Society shall, by its name aforesaid, have power to purchase and hold any quantity of land not exceeding four sections, and may sell and dispose of the same at pleasure. The said real estate shall be held by said Society for the sole purpose of establishing a model experimental farm or farms, erecting inclosures, buildings, and other improvements calculated and designed for the meeting of the Society, and for an exhibition of the various breeds of horses, cattle, mules, and other stock, and of agricultural, mechanical, and domestic manufactures and productions, and for no other purposes.

And be it further enacted, That if, from any cause, said Society shall ever be dissolved, or fail to meet within the period of two consecutive years, then the real estate held by it, together with all the buildings and appurtenances belonging to said estate, shall be sold as lands are now sold by execution, and the proceeds deposited in the State treasury, subject to the control of the Legislature.

AN ACT

SUPPLEMENTAL TO AN ACT TO INCORPORATE A STATE AGRICULTURAL SOCIETY, APPROVED MAY THIRTEENTH, EIGHTEEN HUNDRED AND FIFTY-FOUR, AND AMENDED MARCH TWENTIETH, EIGHTEEN HUNDRED AND FIFTY-EIGHT.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. The general prudential and financial affairs of the Society shall be intrusted to a Board of Agriculture, to consist of a President and nine Directors, five of whom shall constitute a quorum.

SEC. 2. Said Board of Agriculture shall be elected at a general State Agricultural Convention, to be held at the Capital of the State, in the year eighteen hundred and sixty-three, in the month of March, and in the month of January every year thereafter, to consist of the life members and annual members of the State Agricultural Society and four delegates from each County Agricultural Society within this State, incorporated under the general laws of this State for such corporations, and an equal number from each District Agricultural Society, also incorporated under the general laws of this State for such purposes; said delegates to be chosen at the annual fair or annual meeting of each such Society next preceding the State Agricultural Convention;

provided, said convention to be held in March, in the year eighteen hundred and sixty-three, may admit any person or persons representing any of said County or District Agricultural Societies, as the convention may determine by a majority vote, whether such persons shall have been elected by their respective County or District Societies, as provided in this Act or not.—[*Amended section.*

SEC. 3. The Board of Agriculture shall, at its first meeting after its election, be divided by lot into three equal portions (omitting the President), one portion to continue in office one year, one portion two years, and one portion three years; one-third of the number, together with the President, to be elected at the State Agricultural Convention annually thereafter; the Directors to hold office three years.

SEC. 4. The Board of Agriculture may, in the absence of the President, choose one of its other members temporary Chairman. They shall elect a Treasurer and Secretary, not members of the Board, prescribe their duties, fix their pay; and the said Treasurer and Secretary shall be subject to removal at any time by a majority of said Board.

SEC. 5. The Board of Agriculture shall use all suitable means to collect and diffuse all classes of information calculated to aid in the development of the agricultural, stock raising, mineral, mechanical, and manufacturing resources of the State; shall hold an annual exhibition of the industry and products of the State; and, on or before the first day of January of each year in which the Legislature shall be in regular session, they shall furnish to the Governor a full and detailed account of all its transactions, including all the facts elicited, statistics collected, and information gained on the subject for which it exists; and also a distinct financial account of all funds received, from whatever source, and of every expenditure, for whatever purpose, together with such suggestions as experience and good policy shall dictate for the advancement of the best interests of the State; the said reports to be treated as other State documents are.

SEC. 6. The Board of Agriculture shall have power to appoint a suitable number of persons to act as Marshals, who shall be, from twelve o'clock noon of the day previous to the opening of the exhibition, until noon of the day after the close of the same, vested with all the powers and prerogatives with which Constables are invested, so far as acts or offenses committed within, or with reference to, or in connection with, the exhibition are concerned.

SEC. 7. The Board of Agriculture may, in its discretion, award premiums for the best cultivated farms, orchards, vineyards, gardens, etc.; *provided,* that said Board shall not audit, allow, or pay any amount exceeding one thousand dollars, in any one year, for traveling expenses of Visiting Committees in examining said farms, etc.; *provided further,* that no person, except practical agriculturists, shall be appointed on said committees.

SEC. 8. It shall be optional with any to whom a premium is awarded to receive the article named, or its equivalent (as affixed), in coin.

SEC. 9. The State Agricultural Society shall have power, at its first annual meeting after the passage of this Act, to make such alterations in its Constitution as shall make it conform to the provisions of this Act.

SEC. 10. All Acts or provisions in conflict with the provisions of this Act are hereby repealed.

SEC. 11. This Act shall take effect from and after its passage.

AN ACT

FOR THE ENCOURAGEMENT OF AGRICULTURE AND OTHER INDUSTRIES, APPROVED MARCH TWENTY-FIRST, EIGHTEEN HUNDRED AND SEVENTY-TWO.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. There is hereby appropriated, out of any money in the treasury not otherwise appropriated, the sum of five thousand dollars for the State Agricultural Society; the sum of three thousand dollars for the Bay District Agricultural Society; the sum of two thousand dollars for each of the following named Societies, viz: The Los Angeles District Agricultural Association; the Santa Clara Valley Agricultural Society; the Sonoma and Marin District Agricultural Society; the San Joaquin Valley District Agricultural Society; the Northern District Agricultural, Horticultural, and Mechanical Society; the Upper Sacramento Agricultural Society; the Siskiyou County Agricultural Society; and the Bay District Horticultural Society; and the California Vine-growers' and Wine and Brandy Manufacturers' Association, for each of the years eighteen hundred and seventy-two and eighteen hundred and seventy-three. Upon presentation of the requisition of the President and Secretary of either of the Societies above named to the State Controller, the Controller shall draw his warrant on the Treasurer in favor of such Society for the amount appropriated to such Society, and the Treasurer shall pay the same. The money so drawn by each Society shall be used for the purpose of paying premiums for the various agricultural, mineral, mechanical, and manufacturing products of this State, and for no other purpose.

SEC. 2. The Directors of each of the above named Societies, except the State Agricultural Society, shall each year report to the State Board of Agriculture the name and post-office address of each of the officers of such Society, on or before the first day of May; and on or before the first day of December of each year they shall report to said Board of Agriculture the transac-

tions of said Society, including the list of articles exhibited and premiums awarded; the amount of receipts and expenditures of the year, and the objects for which the expenditures have been made; the new industries inaugurated and new products produced, and any and all other facts showing the development of the resources of the district embraced in such Society, which they may deem worthy of such report.

SEC. 3. The State Board of Agriculture shall report annually, on or before the fifteenth day of January, to the Governor of the State, the full transactions of the State Society, including the facts and statistics collected and information gained on the subjects for which it exists; also, including the report from each of the above named Societies, or so much thereof as said Board may deem of value for publication.

SEC. 4. The Governor shall cause five thousand volumes of said report of the State Board of Agriculture to be printed each year, at the expense of the State, and paid for as other public printing, and delivered to the State Agricultural Society for general distribution.

SEC. 5. All laws or parts of laws conflicting with the provisions of this Act are hereby repealed.

SEC. 6. This Act shall take effect and be in force from and after its passage.

AN ACT

TO APPROPRIATE MONEYS TO PAY THE PRESENT OUTSTANDING INDEBTEDNESS OF THE STATE AGRICULTURAL SOCIETY, CONTRACTED IN ERECTING THE GRAND STAND, AND MAKING OTHER IMPROVEMENTS TO THE LANDS AND PROPERTY OF SAID SOCIETY, APPROVED MARCH THIRTIETH, EIGHTEEN HUNDRED AND SEVENTY-SIX.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. The sum of sixteen thousand one hundred and forty-one dollars and eighty-nine cents is hereby appropriated, out of any moneys in the State treasury not otherwise appropriated, to pay the outstanding indebtedness of the State Agricultural Society incurred in erecting the grand stand, and making other improvements upon the lands and property of said Society; and the Controller of State is hereby directed and authorized to draw his warrant in favor of said Society, upon the requisition of the President and Secretary of the same, which requisition shall be accompanied with certified copies of the evidences of debt to be canceled equal in amount to the amount of the requisition for the said sum of sixteen thousand one hundred and forty-one dollars and eighty-nine cents, and the Treasurer of State is hereby authorized and directed to pay the same. The money so drawn by said State Agricultural Society shall be used for the purpose of canceling the present outstanding indebtedness thereof, and for no other purpose.

SEC. 2. This Act shall take effect and be in force from and after its passage.

AN ACT

FOR THE ENCOURAGEMENT OF AGRICULTURE AND OTHER INDUSTRIES, APPROVED MARCH EIGHTEENTH, EIGHTEEN HUNDRED AND SEVENTY-EIGHT.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. There is hereby appropriated out of any money in the treasury, not otherwise appropriated, the sum of five thousand dollars for the State Agricultural Society; the sum of fifteen hundred dollars for the Upper Sacramento Valley Agricultural Society; the sum of fifteen hundred dollars for the San Joaquin Valley Agricultural Society; the sum of fifteen hundred dollars for the Golden Gate District Fair Association; the sum of fifteen hundred dollars for the Sonoma and Marin District Agricultural Society; the sum of fifteen hundred dollars for the Northern District Agricultural Society; the sum of fifteen hundred dollars for the Napa and Solano District Agricultural Society; the sum of fifteen hundred dollars for the Santa Clara Valley Agricultural Society; the sum of fifteen hundred dollars for the Southern District Agricultural Society; the sum of one thousand dollars for the Plumas, Lassen, and Modoc District Fair; one thousand dollars for the Monterey County Agricultural Society; one thousand dollars for the El Dorado County Agricultural Society, and one thousand dollars for the Siskiyou County Agricultural Society, for each of the years eighteen hundred and seventy-nine. Upon the presentation of the certificate of the President and Secretary of either of the Societies named above to the State Controller, that such sums have been expended in premiums in accordance with the provisions of this Act, at a fair held during the year eighteen hundred and seventy-

eight and eighteen hundred and seventy-nine, the Controller shall draw his warrant on the Treasurer in favor of such Society, for the amount appropriated to such Society, and the Treasurer shall pay the same The money so drawn by each Society shall be used for the purpose of paying premiums for the different kinds of live stock, and the various agricultural, mineral, mechanical, and manufacturing products of this State, and for no other purpose; and no part whatever shall be given in any contingency in purses for horse-racing.

SEC. 2. The Directors of each of the above named Societies, except the State Agricultural Society, shall each year report to the State Board of Agriculture the name and post-office address of each of the officers of such Society, on or before the first day of May; and on or before the first day of December of each year they shall report to said Board of Agriculture the transactions of said Society, including the list of articles exhibited, and for which premiums were awarded; the amount of receipts and expenditures of the year, and the object for which the expenditures have been made; the new industries inaugurated, and new products produced, and any and all other facts showing the development of the resources of the district embraced in such Society which they may deem worthy of such report.

SEC. 3. The State Board of Agriculture shall report annually, on or before the first day of February, to the Governor of the State the full transactions of the State Society, including the facts and statistics collected and information gained on the subject for which it exists; also, including the report from each of the above named Societies, or so much thereof as said Board may deem of value for publication.

SEC. 4. The Governor shall cause five thousand volumes of said report of the State Board of Agriculture to be printed each year, at the expense of the State, the cost not to exceed one dollar per volume, and paid for as other public printing, and delivered to the State Agricultural Society for general distribution.

SEC. 5. All Acts and parts of Acts in conflict with the provision[s] of this Act are hereby repealed.

SEC. 6. This Act shall take effect and be in force from and after its passage.

ANNUAL REPORT

OF THE

BOARD OF DIRECTORS.

To the Members of the State Agricultural Society:

GENTLEMEN: In presenting their annual report, the Directors of the State Agricultural Society congratulate the members thereof, and the people of the State generally, on the prosperous condition of its management, and the usefulness which has attended its progress during the year just closed. It was supposed that the natural and unavoidable drawbacks attendant upon a dry season would have the effect of greatly weakening, if it did not entirely exhaust, the vitality of the Society; but, on the contrary, and in testimony of the oft-repeated expression that "all signs fail in dry weather," the fair of eighteen hundred and seventy-seven was one of the most successful ever held in the State, exceeding in a marked degree the revenue of the one held in eighteen hundred and seventy-six. More and increased interest seemed to be manifested in the well-being of the Society, and every effort was put forth by all classes to add to its importance and place it upon a strong foundation. During the year improvements have been made on the grounds of the Society at Agricultural Park, which cannot fail to conduce to the comfort and convenience of those exhibiting stock at its fairs, as well as to add to the pleasure of those visiting the Park upon such occasions. The grounds referred to are in thorough and complete order, and will present advantages at the coming and succeeding fairs never before vouchsafed those attending them. This, of course, has involved a great deal of attention and labor, and a heavy outlay of money. A handsome and broad avenue has been constructed around the grounds, in order that visitors may reach and examine the stock without being inconvenienced by vehicles; and a walk has been constructed to the east side of the Park, which, for ladies and children, will be found to be of great advantage.

In making this report it must of necessity be very brief, for the reason that the Legislature restricted us to such an extent in its preparation, confining us to one hundred pages in all, that any allusion to the industries and products of the State must be so meagre as almost to render them unintelligible. There are many things in connection with the welfare and progress of the society, and agricultural interests generally, in regard to which we would like to speak elaborately, but, for the reason just stated, we are debarred from so

doing. While it may be in the interest of economy thus to restrict a full and detailed account of the agricultural condition of the State from being published in the annual report of the State Agricultural Society, it seems to us to partake of that kind of economy which savors too much of the penny-wise and pound-foolish system. And we deem it of sufficient importance thus to direct public attention to the difficulty under which we labor by reason thereof. In our judgment the State of California can well afford an annual outlay in the publication of the reports of the State Agricultural Society. We dwell upon this matter more particularly for the reason that the demands upon our Secretary for volumes of our proceedings from the Eastern States, and particularly from Europe, are constant, but on account of the paucity of the information therein contained it has been considered better for the material interests of the State not to comply in many cases. We respectfully invite the attention of the members of the present Legislature to this condition of affairs, and ask that the restriction, heretofore imposed upon us in the publication of the annual report of the Society, be removed entirely, or so modified as to render the document of some interest to those abroad, and beneficial to the best interests of the State. At the present time the entire issue is an edition of one hundred pages of one thousand copies, but two hundred and fifty of which are apportioned to the Society. The issue, to be of any value, should be five thousand copies of five hundred pages.

The average quality of wheat raised during the season was fair. The crop of barley was satisfactory, and generally good prices were obtained; the quantity produced, however, as with wheat also, was far below the yield of the preceding year, a fact easily accounted for by the extreme dryness of the season. In eighteen hundred and seventy-six there reached San Francisco ten million five hundred and sixteen thousand nine hundred and thirteen centals of wheat produced in the State; and in eighteen hundred and seventy-seven, five million one hundred and fifty-nine thousand four hundred and ninety-four centals, a falling off of fifty per cent. In eighteen hundred and seventy-six one million six hundred and twenty-six thousand and sixty-six centals of barley produced in the State reached San Francisco; and in eighteen hundred and seventy-seven only seven hundred and seventy-five thousand seven hundred and thirty-nine centals, showing a falling off similar to that of wheat. The season of eighteen hundred and seventy-seven was an unusually dry one, not a drop of rain falling in many grain growing portions of the State. This year the prospects are very bright. The rain in almost every instance has fallen just as needed through the season, gradually and beneficially culminating in settled showers, bringing a copious supply of the life-giving nourishment. There is every indication of a prosperous future so far as the productions of the State are concerned, thus strengthening every calling and business.

The product of wool in eighteen hundred and seventy-seven bears favorable comparison with that of the preceding year, as in eighteen hundred and seventy-six one hundred and sixty-seven thousand six hundred and one bales reached San Francisco, and in eighteen hundred and seventy-seven one hundred and forty-six thousand six hundred and fifty-nine bales. The falling off here, while it is large, was not so disastrous as with the cereals, although the destruction of sheep, arising from want of proper nourishment, was very large,

thousands falling by the wayside. The prices of wool averaged higher in eighteen hundred and seventy-seven than in eighteen hundred and seventy-six. The exports of wool, by land and sea, amounted in eighteen hundred and seventy-seven to forty-nine million nine hundred and sixty thousand and nine pounds, and in eighteen hundred and seventy-six to fifty million eight hundred and thirty-seven thousand nine hundred and ninety-seven pounds, being a decrease of only eight hundred and seventy-seven thousand nine hundred and eighty-eight pounds.

The Board of Directors of the State Agricultural Society respectfully recommend to the Legislature now assembled the usefulness of making liberal appropriations to all of the Agricultural Societies of the State, so as to enable them to give larger premiums than heretofore, arousing an increased interest on the part of the people.

FINANCIAL REPORT

OF THE

STATE AGRICULTURAL SOCIETY FOR 1877.

RECEIPTS.

1877.	To balance on hand	$1,452 87
Jan. 27—	Memberships sold, silver	979 50
"	D. C. Wright, Spirit of the Times' stake, gold	145 00
"	D. C. Wright, Spirit of the Times' stake, gold	50 00
Feb. 15—	S. Cole, freight	2 25
Mar. 4—	Supervisors Sacramento County, repairs on Pavilion	76 20
"	A. A. Wood, rent, gold	500 00
"	G. A. Maberry, old carpet	8 00
May 11—	A. A. Wood, on account of rent, silver	400 00
Sept. 15—	J. T. Adams, soda privilege	52 50
Sept. 16—	Memberships, sold from January twenty-seventh to date	260 00
Sept. 17—	Geo. W. Gilbert, memberships sold at Park	90 00
"	Memberships sold at Pavilion	50 00
"	Receipts at Park	1,820 00
"	Receipts at Pavilion	1,473 50
"	Entries to Purse No. 1	425 00
"	Entries to Purse No. 2	275 00
Sept. 18—	Receipts at Park	1,463 00
"	Receipts at Pavilion	892 50
"	Entries to Purse No. 4	390 00
"	Entries to Purse No. 5	600 00
"	Entries to Purse No. 6	200 00
Sept. 19—	Receipts at Park	1,701 50
"	Receipts at Pavilion	723 00
"	Entries to Purse No. 7	450 00
Sept. 20—	Receipts at Park	2,117 50
"	Receipts at Pavilion	1,008 25
"	Entries to sweepstakes	263 00
"	A. A. Wood, on account of rent	1,000 00
"	Killip & Co., on account of pool privilege	1,500 00
"	Entries to Purse No. 9	240 00
"	Entries to Purse No. 10	225 00
Sept. 21—	Receipts at Park	2,196 50
"	Receipts at Pavilion	753 80
"	Entries to Purse No. 11	625 00
"	Entries to Purse No. 12	600 00
"	Entries to Purse No. 13	200 00
Sept. 22—	Receipts at Park	1,258 75
"	Receipts at Pavilion	508 50
"	Entries to Purse No. 14	480 00
"	Entries to Purse No. 15	240 00
"	Entries to Purse No. 16	200 00
"	Reserved seats, special stand	98 00
"	Sundry privileges, per M. Bryte	70 00
"	William Schumloffel, bar privilege at Pavilion	127 50
"	Killip & Co., on account of pool privileges	1,000 00
"	A. A. Wood, on account of rent	680 00

Sept. 22—Mrs. R. O. Cravens, on account of restaurant privilege, Pavilion		70 00
" J. T. Adams, cider privilege, Pavilion		52 75
" Jesse Healy, life membership		50 00
" Josiah Z. Goff, life membership		50 00
Sept. 28—T. J. Weeks, entrance in Purse No. 9		50 00
Oct. 26—Mrs. R. O. Cravens, balance restaurant privilege		30 00
" Charles Shear, entrance to Spirit of the Times' stake (1876)		100 00
" A. A. Wood, on account of rent		195 00
Dec. 10—Robert Allen, rent of Park for December		350 00
1878.		
Jan. 10—Robert Allen, rent of Park for January		350 00
		$31,169 37

DISBURSEMENTS.

1877.	
Feb. 1—Huntington, Hopkins & Co., premiums	$75 00
Feb. 18—Graves, half day's labor at Park	1 00
Feb. 26—Postage stamps	2 00
" E. B. Mott, Jr., premium	24 00
" L. L. Lewis, premium	30 00
" Robt. Beck, salary for February	166 66
Mar. 3—Post-office box rent	4 00
" William Hawkins, balance Spirit of the Times' stake	150 00
" Revenue stamps	1 00
" Expressage on seeds	50
Mar. 17—Samuel Jelly	3 00
" Expressage on medals	3 00
" Duplicate keys	1 00
April 5—James Connell, work on track	7 50
" Postage stamps	2 00
April 13—Post-office box rent	4 00
April 21—James Connell, work at Park	7 50
" Leland Howe, rent of screws	6 00
" Huntington, Hopkins & Co., premiums	8 00
Mar. 5—Laufkotter Brothers' bill	20 00
Mar. 21—W. K. Vanderslice & Co., bill for medals	740 30
Mar. 27—P. M. Chatterton, on account	30 00
Mar. 30—Robt. Beck, salary for March	166 66
April 18—P. M. Chatterton, on account	45 00
April 23—P. M. Chatterton, balance of bill (moving fence and stand)	90 00
" A. Meiss, grading inside track	99 50
April 28—Robt. Beck, salary for April	166 66
" Home Mutual Insurance Company, insurance on stand	187 50
" Svea Insurance Company, insurance on stand	62 50
Mar. 19—William Frazer, lumber	83 00
Mar. 31—Robt. Beck, salary for May	166 66
June 30—Robt. Beck, salary for June	166 66
April 24—Postage stamps	5 20
May 7—P. M. Chatterton, work at Park	5 00
May 26—Washing lounge cover	50
" Postage stamps	3 00
" J. J. Gray, bill for painting	3 50
June 13—L. P. McCarthy, for Statistician (1876)	4 00
June 16—H. Wachhorst, bill	6 00
June 18—Postage stamps	2 00
" Placer Argus, advertising for 1876	5 00
July 20—Scouring and cleaning office	6 00
" H. P. Nash, stopping bat holes	5 00
" F. J. Lewis, filling diploma	50
July 30—A. Hamburger, bill	4 75
" James A. Martin, bill	18 50
Aug. 3—Robert Beck, salary for July	166 66
Aug. 15—Record-Union, advertising	32 00
" W. T. Grissim, six volumes Cyclopedia	28 00
" W. T. Grissim, one volume Bonanza	4 00
Sept. 17—Purse No. 1	250 00
" Stake to Purse No. 1	425 00
" Purse No. 2	300 00
" Stake to Purse No. 2	275 00
Sept. 18—Purse No. 4	300 00
" Purse No. 5	600 00
" Purse No. 6	400 00

Sept. 19—Purse No. 7		750 00
Sept. 20—Purse No. 9		500 00
" Purse No. 10		750 00
Sept. 21—Purse No. 11		300 00
" On account stake to Purse No. 11		525 00
" Purse No. 12		600 00
" Purse No. 13		350 00
" Stake to Purse No. 13		200 00
Sept. 22—Purse No. 14		800 00
" Purse No. 15		800 00
" Purse No. 16		400 00
Sept. 24—Church & Jones, music		555 00
Sept. 25—Locke & Lavenson, bill		192 45
" Theodore Winters, premiums		450 00
Sept. 26—John Bellmer, on assignment of Jesse Slaughter		200 00
" Subscription, Pacific Life		4 50
" Post-office box rent		4 00
" One-cent postage stamps		2 00
" Expressage on Iowa Agricultural Reports		2 50
" Express wagon for posters		1 00
" Renewal membership National Trotting Association, and equipments		81 40
" Ed. Flaherty, labor at Park		17 00
" Charles Wason, labor at Park		15 75
" P. M. Chatterton, on account, carpenter at Park		20 00
" W. Hill, labor at Park		21 00
" E. B. Cooper, labor at Park		2 50
" Telegraph bill		3 50
" N. R. Hathaway, carpenter work at Park		33 25
" James Hayworth		40 00
" Nails at Park		1 00
" M. A. Randall, police at Park		18 00
Sept. 22—J. Cardinell, premium		10 00
" W. O. Jennings, premium		75 00
" J. T. Hadley, premium		50 00
" Robert T. Worden, premium		40 00
" A. L. Chapman, premium		25 00
" A. L. Chapman, premium		40 00
" A. L. Chapman, premium		75 00
" Ben. E. Harris, premium		50 00
" Henry Walsh, premium		20 00
" J. P. Odbert, premium		15 00
" L. U. Shippee, premium		80 00
" J. R. Myers, premium		30 00
" A. Tapper, premium		20 00
" Fred. Babble, premium		45 00
" J. L. Clark, premium		40 00
" J. R. Hadley, premium		20 00
" J. W. Richmond, premium		15 00
" John Kennedy, premium		10 00
" H. Meacham, premium		40 00
" J. Wooden, premium		65 00
" R. J. Merkley, premium		90 00
" Chris. Thodt, premium		35 00
" Carl Halverson, premium		40 00
" E. Comstock, premium		20 00
" James Gannon, premium		40 00
" H. A. Mayhew, premium		30 00
" William Hawkins, premium		40 00
" L. H. Titus, premium		30 00
" L. J. Rose, premium		20 00
" James R. Madden, premium		40 00
" E. A. Bridgford, premium		20 00
" A. D. Miller, premium		25 00
" H. Dubose, premium		25 00
" Ben. Harris, premium		15 00
" W. O. Jennings, premium		65 00
" Hawkins, per Bryte, premium		2 00
" J. B. Redmond, premium		47 50
" D. M. Reavis, premium		145 00
" Coleman Younger, premium		485 00
" I. N. Hoag, premium		20 00
" E. Comstock, premium		37 50

Sept. 22—A. J. Scoggins, premium		120 00
" James McM. Shafter, premium		90 00
" P. Stanton, premium		70 00
" Mark Hopkins, premium		60 00
" Mahon & Stanton, premium		25 00
" Mark Hopkins, premium		10 00
" E. F. Aiken, premium		25 00
" L. C. Powers, premium		60 00
" N. McDonald, premium		15 00
" Mike Bryte, premium		140 00
" R. McEnespy, premium		20 00
" I. N. Hoag, premium		20 00
" E. Comstock, premium		60 00
" D. M. Reavis, premium		210 00
" L. U. Shippee, premium		165 00
" E. Comstock, premium		15 00
" Mike Bryte, premium		105 00
" E. F. Aitken, premium		20 00
" John Kerwin, premium		5 00
" Robt. Roberts, premium		65 00
" W. C. Thomas, premium		10 00
" Angora Goat Breeding Association, per N. Gilmore, premium		140 00
" John Rider, premium		20 00
" P. H. Fisher, premium		10 00
" Mrs. Robert Blacow, premium		215 00
" W. B. Gibson, premium		20 00
" T. S. George, premium		5 00
" John Herring, premium		40 00
" Landrum & Rodgers, premium		55 00
" S. P. Thomas, premium		140 00
" W. M. Reese, premium		5 00
" R. Davis, premium		5 00
" A. P. Stewart		5 00
" Almer Davis, premium		5 00
" G. W. Hancock		25 00
" W. S. Jeans, boring wells at Park		96 75
" S. Gates, lunches at Park		37 50
" —— Simmons, oat hay		507 16
" L. Schadt, alfalfa hay		145 12
" J. S. Easterbrook, drayage		8 25
" James H. Crone, hauling hose cart to Park		3 00
" Shields & Dreman, painting distance-posts and Judges' stand		56 00
" W. H. Crowell & Co., advertising		16 00
" Keyte & Co., advertising		4 00
" A. Grubb, hauling chairs		7 00
" William Caswell, advertising posters		30 00
" H. M. Bernard, repairing machinery		1 00
" F. A. Ebel, decorating fountain		25 00
" Mrs. Blackleach, bill for ribbons		10 00
" Miss Emmonds, bill for rosettes		3 50
" M. Hubbard, expressage on silver		25
" Mrs. R. O. Cravens, premium on gold		75
" S. Lipman, ribbons for 1876		5 55
Sept. 28—G. W. Maberry, per D. Deirson, order		100 00
Oct. 1—Robert Beck, for extra work and traveling expenses, 1876–7		300 00
" R. McEnespy, premium		40 00
" Sacramento Plow Company, premium		30 00
" Charles A. Bamber, per order		20 00
" Jesse Slaughter, per order William Gwinn		100 00
Oct. 1.—M. D. Boruck, advertising		250 00
" Geo. G. W. Morgan, Entry Clerk, Pavilion		50 00
" James S. Hanihan, posting posters		10 00
Sept. 22—O. A. Davis, premiums		8 00
" Clark Rickoff, premiums		5 00
" A. W. Mitchell, premiums		15 00
" W. R. Freeman, premiums		100 00
" E. F. and F. Aitken, premium		53 00
" A. C. Freeman, premiums		5 00
" Norton Bush, premiums		75 00
" Mrs. H. Young, premiums		5 00
" Laura Davis, premiums		5 00
" Sweepstake Plow Company, premiums		245 00

Sept. 22—	Locke & Lavenson, premiums	20 00
"	Benoni Irwin, premiums	25 00
"	T. P. Lowell, premiums	20 00
"	Mrs. H. Wachhorst, premiums	10 00
"	W. F. Peterson, premiums	10 00
"	Miss Amy Huburt, premiums	5 00
"	W. F. Peterson, premiums	3 00
"	California Carriage Manufacturing Company, premiums	105 00
"	Thomas K. Stewart, premiums	10 00
"	William Borneman, premiums	20 00
"	R. Dale, premiums	30 00
"	Miss Emma Hartwell, premiums	25 00
"	Mrs. Wm. Lyon, premiums	33 00
"	Mrs. S. McBrien, premiums	5 00
"	Mrs. R. O. Cravens, premiums	5 00
"	Mrs. E. Howe, premiums	3 00
"	Jesse Aitken, premiums	5 00
"	Aitken & Luce, premiums	20 00
"	C. Shaffer, premiums	15 00
"	Miss Mollie Murphy & Co., premiums	35 00
"	James G. Davis, premiums	35 00
"	J. Shellers, premiums	5 00
"	Nicholas Blum & Co., premiums	40 00
"	H. Eckhardt, premiums	30 00
Sept. 24—	Miss Dora E. Doan, premiums	5 00
"	Miss Mamie M. White, premiums	5 00
"	Capital Woolen Mills, premiums	58 00
"	Thomas Harper, premiums	25 00
"	W. S. Manlove, premiums	33 00
"	Mrs. George Lages, premiums	5 00
"	Mrs. Odbert, premiums	10 00
"	John A. Todd, premiums	100 00
"	M. C. Hawley & Co., premiums	55 00
"	G. H. Swinerton, premiums	40 00
"	S. H. Davis, premiums	10 00
"	R. B. Blowers, premiums	140 00
"	J. Routier, premiums	35 00
"	Lucy A. Stevens, premiums	10 00
"	Lillie Wilcox, premiums	8 00
"	R. J. Merkley, premiums	10 00
"	Holbrook, Merrill & Co., premiums	28 00
"	George Miller, premiums	10 00
"	Houseman & Gilmore, premiums	5 00
"	William Laufkotter, premiums	20 00
"	Miss Fannie McClatchy, premiums	20 00
"	F. Birsi & Co., premiums	126 00
"	D. DeBernardi, premiums	30 00
"	Miss Mary Kohner, premiums	10 00
"	Giraud & Pitcher, premiums	15 00
"	Pitcher & Palmer, premiums	5 00
"	Mrs. E. S. Hart, premiums	20 00
"	Bush Brothers, premiums	10 00
"	Ackerman & Co., premiums	5 00
"	F. A. Ebel, premiums	160 00
"	William Eberhardt, premiums	10 00
"	P. H. Murphy, premiums	10 00
"	E. Comstock, premiums	10 00
"	D. H. Quinn, premiums	30 00
"	J. C. Devine, premiums	50 00
"	Miss Nettie Montford, premiums	26 00
"	B. E. Harris, starting horses	15 00
"	M. A. Randall, laborer at Park	18 00
"	Expressage for office	2 10
"	Car tickets for Messenger	1 50
"	Drayage on money to bank	2 75
"	J. Ireland, laborer at Park	18 00
"	R. Green, laborer at Park	18 00
"	O. Young, laborer at Park	15 00
"	I. Seymore, laborer at Park	18 00
"	O. P. Dodge, laborer, at Park	21 00
"	E. S. Janes, laborer at Park	18 00
"	P. L. Hickman, laborer at Park	18 00

Sept. 24	Charles Herndon, Stair-keeper at Park	13 50
"	George Lang, Stair-keeper at Park	18 00
"	F. R. Chandler, Porter at Park	18 00
"	George W. Gilbert, Entry Clerk at Park	75 00
"	George Pardy, royalty on tickets	160 00
"	W. M. Page, Gate-keeper	48 00
"	J. A. Williams, Gate-keeper	48 00
"	John Pardy, Gate-keeper	48 00
"	Lewis Whiting, Porter Judges' stand, etc.	30 00
"	E. I. Robinson, Chief Ticket Clerk at Park	67 50
"	R. C. Montgomery, Distance Judge	30 00
"	T. Milliard, laborer at Park	18 00
"	J. Johnson, laborer at Park	15 00
"	C. B. La Shell, Policeman at Park	18 00
"	H. Strobe, laborer at Park	18 00
"	P. Pendegast, laborer at Park	18 00
"	D. Roberts, laborer at Park	18 00
"	D. M. Cox, laborer at Park	15 00
"	William Mills, laborer at Park	18 00
"	C. E. Winereich, Messenger at Park	18 00
"	B. A. Everett, Marshal at Park	30 00
"	George H. Coulter, laborer at Park	28 50
"	Luke Rotchford, laborer at Park	10 50
"	Mike Bryte, Jr., Ticket-seller at Park	10 50
"	John Huey, Marshal at Park	30 00
"	E. Carpenter, laborer at Park	18 00
"	H. Garrett, laborer at Park	18 00
Sept. 25	George Dean, laborer at Park	15 00
"	George Harvey, Policeman at Park	24 00
"	R. White, laborer at Park	13 50
"	Leland English, Ticket-seller at Park	18 00
"	Nelson Toll, laborer at Park	18 00
"	William Sheerer, Policeman at Park	24 00
"	H. S. Beals, Usher at grand stand	18 00
"	Pat Rice, Policeman at Park	18 00
"	C. Quigley, laborer at Park	12 00
"	John W. Currier, Ticket-seller at Park	10 50
"	Ed Knox, Ticket-seller at Park	18 00
"	Charles Oatman, Ticket-seller at Park	18 00
"	Charles Morrow, laborer at Park	25 50
"	John Hillhouse, Season Ticket Clerk	30 00
"	Samuel Blair, Entry Clerk at Park	55 00
"	R. Parker, laborer at Park	24 00
"	Eugene West, laborer at Park	15 00
"	D. Stewart, laborer at Park	18 00
"	F. J. Clark, Marshal at Park	30 00
"	C. S. Rowe, on account carpenter work at Park	40 00
"	Charles Elliott, laborer at Park	10 00
"	Mrs. W. V. Miller, premiums	37 00
"	B. W. Miller, premiums	2 00
"	H. E. Miller, premiums	3 00
"	Frank N. Fish, premiums	50 00
"	American District Telegraph Company, rent of instrument	1 25
"	Revenue stamps	50
"	Two-cent postage stamps	1 00
"	P. M. Chatterton, an account carpenter work at Park	40 00
"	A. M. Goodnough, premium	20 00
"	John S. Miller, Finance Clerk	110 00
Oct. 1	A. D. Miller, premiums	55 00
"	Robert Williamson, premiums	55 00
Oct. 3	Reuben Johnson, on account	50 00
"	James Coffee, Policeman at Park	24 00
"	Frank M. Chapman, livery bill	30 00
Oct. 4	William Curtis, straw	234 21
"	O. O. Goodrich, premiums	38 00
"	John Rider, special premium	20 00
Oct. 3	John Breuner, premiums	75 00
"	Joseph A. Martin, hardware for Park	88 77
"	L. L. Lewis, premiums	28 00
"	L. L. Lewis, bill	2 50
"	Bush Bros., bill for plumbing, etc.	178 74
"	John Batchelder, premiums	25 00

Oct. 5	Manuel F. Manix, premiums	25 00
"	W. F. Frazer, lumber for Pavilion	110 25
Oct. 6	E. A. Burr, bill for hay	18 90
Sept. 24	Lopez Mauldin, Chief Ticket Clerk, Pavilion	30 00
"	Charles Gray, Assistant Ticket Clerk, Pavilion	18 00
"	Bradley S. Hoyt, Entry Clerk, Pavilion	15 00
"	M. Omara, Watchman, Pavilion	27 00
"	James Glennon, laborer, Pavilion	27 00
"	H. Laughlin, laborer, Pavilion	24 00
"	George W. Charlton, Assistant Entry Clerk, Pavilion	21 00
"	C. W. Menke, laborer, Pavilion	6 00
"	H. Bartlett, laborer, Pavilion	24 00
"	William F. Griggs, laborer, Pavilion	28 50
"	Mrs. Moses Gibson, Chambermaid, Pavilion	15 00
"	N. E. White, Assistant Superintendent, Pavilion	65 00
"	John Ledlie, Door-keeper, Pavilion	27 00
"	H. Jefferies, laborer, Pavilion	27 00
"	Ed. Hartwell, Entry Clerk, lower hall	45 00
"	Willie Craig, Messenger, Pavilion	27 50
"	William Crump, Night Watchman, Pavilion	30 00
"	William Johnson, laborer, Pavilion	66 00
"	F. Brown, laborer, Pavilion	30 00
"	F. Davenport, carpenter, Pavilion	66 00
"	E. D. Webb, carpenter, Pavilion	48 00
"	M. C. Crone, carpenter, Pavilion	56 00
"	G. Beck, laborer, Pavilion	78 00
"	H. Clock, laborer, Pavilion	75 00
"	E. Duffey, laborer, Pavilion	78 00
"	G. W. Guthrie, Gas-lighter, Pavilion	12 00
"	Frank Adams, Gas-lighter, Pavilion	12 00
Oct. 6	F. H. Moore, Ticket Clerk, Park	18 00
"	Daily Bee, advertising	67 00
"	R. S. Jones, square show case	20 00
"	Liverpool, London and Globe Co., insurance on grand stand	75 00
"	R. Dale & Co., bill	7 15
"	A. Griffith, premiums	50 00
"	H. Wachhorst, napkin rings (premiums, 1876)	9 00
"	James Parsons, premiums	9 00
"	T. J. Stoll, premiums	20 00
"	T. J. Stoll, bill	15 00
"	M. R. Rose, premiums	10 00
"	A. Nehr & Co., premiums	20 00
Oct. 9	C. S. Rowe, balance, carpenter work at Park	80 75
"	R. M. Chatterton, balance, carpenter work at Park	107 50
Oct. 10	J. S. Woods, livery and hack hire	33 50
"	Nash & Kleese, premium	10 00
"	California Carriage Manufacturing Company, bill	27 50
"	Robert Chalmers, premiums	125 00
"	E. M. Smith, premiums	53 00
"	M. M. Chrisholm, express wagon for 1876	5 00
"	M. M. Chrisholm, express wagon for 1877	10 50
Oct. 12	O. P. Goodhue, lumber at Park	156 00
"	L. R. Martin, two-year old running stake	100 00
"	G. W. Carey, Assistant Superintendent at Park	40 00
Oct. 13	Reel & McGraw, bill	53 47
Oct. 16	Gus Meiss, sprinkling Park	35 00
"	Mrs. H. Cronkite, premiums	65 00
Oct. 17	Sundry newspapers, advertising	205 00
"	Dewey & Co., advertising	24 00
"	Oakland Tribune	15 00
Oct. 18	D. Fooley, Policeman at Park	24 00
"	A. Keethly, Door-keeper at Pavilion	24 00
Oct. 19	S. H. Davis, bill at Park	15 43
"	A. Hamburger, bill for ribbons	12 50
"	A. Flohr, bill for keys	3 75
"	A. Flohr, premiums	8 00
Oct. 20	Sacramento Journal, advertising	10 00
Oct. 23	Mrs. T. A. Burke, premium	5 00
"	F. F. Scoffield, premium	5 00
"	William Grubb, hauling chairs	3 75
"	American District Telegraph, box rent	1 25
"	J. W. Brady, work at Park	2 00

Oct. 23—	R. E. Goggins, drugs	2 40
"	Placer Argus, advertising	5 00
"	Gus Meiss, hauling dirt, Pavilion	1 50
"	C. F. Clink, bill	5 75
"	Sunday Advertiser, advertising	5 00
"	Frank Adams, bill	5 00
"	Miss Emmonds, premium	5 00
"	Mrs. S. A. Winn, premium	5 00
"	Capt. Herring	6 00
"	Expressage on Italian Agricultural Reports, and on wheat	75
"	John Smith, premium	6 00
"	W. F. Easterday, premium	5 00
"	Daniel H. Jones, posting posters on railroad	10 00
"	Under-charge in Warrant No. 22	80
"	Robt. Beck, salary for August, September, and October	500 00
"	Loftus & Bullard, premium	20 00
"	H. Borneman, premium	20 00
"	Marion Biggs, salary as President	1000 00
"	Record-Union, advertising	102 50
"	Hartwell, Hotchkiss & Co., bill	44 40
"	Mrs. J. H. Lewis, premium	25 00
"	Miss Kate Almond, premium	10 00
"	D. O. Mills, discount on silver	240 00
"	Pacific Ice Co., bill	8 50
"	J. T. Wight, premium	5 00
"	A. Nahl, premium (1876)	10 00
"	Sherman & Hyde, premium	20 00
"	Postage on duplicate speed record	54
"	Postage on reports to Kern County	32
"	Postage on reports to Department of Agriculture	1 16
"	Hack for Building Committee to Park	2 50
"	Post-office, box rent	4 00
"	Mrs. M. D. Moore, special premium	5 00
"	G. H. Swinerton, bill	50
"	Reuben Johnson, balance, hauling at Park	10 00
"	T. McMorry, bill	2 50
"	Chris. Nelson, laborer at Park	3 00
"	Charles Shear, premium, 1876	40 00
"	A. A. Wood, bill	195 00
"	L. A. Upson, salary as Treasurer	150 00
"	P. M. Chatterton, on account, carpenter	20 00
"	J. S. Woods, balance hack bill	26 00
"	George H. Baker, diplomas	25 50
"	Will. J. Beatty, on account	100 00
"	J. F. Lewis, filling diplomas	15 00
"	W. L. Newell, Clerk of Course	30 00
"	American District Telegraph, rent of box	2 50
"	T. Clark, sawing and carrying wood	1 50
"	E. B. Mott, premiums	10 00
"	Postage on wheat samples	60
"	Expressage on medals	50
"	Charles Thompson, shingling stables	30 12
"	Postage, two-cent stamps	2 00
"	William Guttenberg, premium	10 00
"	Walter Parkerson, laborer at Park	13 00
"	C. S. Rowe, carpenter at Park	61 25
"	N. R. Hathaway, carpenter at Park	47 25
"	George W. Maberry, carpenter at Park	61 25
"	James McKeen, carpenter at Park	57 25
"	George W. Maberry, per bill	30 00
"	Capital Furniture Company, premiums	30 00
"	Will. J. Beatty, balance for clerical labor	205 00
"	Huntington, Hopkins & Co., premiums	53 00
"	G. W. Ready, premiums	20 00
"	William Garratt, whitewashing new stalls	37 00
"	John J. Gray, bill for painting	9 15
"	A. Dennery, bill	9 15
"	P. Chatterton, on account of carpenter work	20 00
"	Reuben Johnson, bill	5 00
"	J. F. Slater, premium	5 00
"	P. Chatterton, on account of carpenter work	20 00
"	Foster & Billingsley, bill, $8 50; premium, $10	18 50

Oct. 23—Mrs. E. H. Williams, premium		10 00
" Robert Beck, salary for November		166 66
" F. J. Lewis, filling diplomas		20 50
" Capital Gas Company, bill		271 35
" C. H. Krebs, bill		132 50
" Charles Thompson, shingling new stable		24 50
1878.		
Jan. 4—Mrs. Applegate, premium		5 00
" C. S. Rowe, carpenter at Park		80 50
" N. R. Hathaway, carpenter at Park		22 75
" James McKeen, carpenter at Park		73 50
" M. Crone, carpenter at Park		84 00
" G. W. Maberry, carpenter at Park		89 25
" Edward Kelly, laborer at Park		19 00
" James Leaton, laborer at Park		13 00
" C. L. Garratt, laborer at Park		12 00
" Peter Chatterton, on account carpenter work at Park		26 00
Jan. 8—Robert Beck, salary for December		166 66
Jan. 18—P. M. Chatterton, balance on account carpenter work at Park		141 50
" Gus Meiss, account hauling and plowing at Park		10 00
" Bermuda seed for Park		1 00
" Postage stamps		2 00
" American District Telegraph, rent of box		2 50
" Express wagon, delivering diplomas		1 50
" Statistician for 1878		2 50
" Under-charge in Warrant No. 123		3 00
		$31,282 22

To the Honorable Board of Directors of the State Agricultural Society of California:

GENTLEMEN: We, the undersigned committee, appointed to examine the financial report of the State Agricultural Society for the year eighteen hundred and seventy-seven, respectfully represent that we have compared the same with the books of the Society and find it correct.

All of which is respectfully submitted.

W. R. CANTWELL,
T. M. LINDLEY,
ERSKIN GREER,
} Committee.

January 27th, 1878.

EXHIBITS AT THE FAIR—1877.

ANIMALS EXHIBITED AT THE PARK.

FIRST DEPARTMENT. CLASS I.—THOROUGHBRED HORSES.

STALLIONS.

Four years old and over.

James Watson, Sonoma County—Iron Clad, by Woodburn; dam, Peggy Ringold.
Theo. Winters, Winters, Yolo County—Norfolk, by Lexington; dam, Novice, by Glencoe.
G. P. Kimball, San Francisco—Hubbard, by Planet; dam, Minnie Mansfield.

Three years old.

J. C. Simpson, Oakland—Bill Barnes, by Norfolk; dam, Louisa Barnes.
Theo. Winters, Winters, Yolo County—Chesonesix, by Norfolk; dam, Nevada.
Henry Walsh, San Francisco—Stallion, by Woodburn; dam, Moss Rose.

Two years old.

Theo. Winters, Winters, Yolo County—Estell, by Norfolk; dam, imported Lady June.
Theo. Winters, Winters, Yolo County—Spring Box, by Norfolk; dam, Addie C.

Under one year old.

J. A. Cardinell, San Francisco—Jack Douglass, by Wild Idle; dam, Lady Clara.
Theo. Winters, Winters, Yolo County—Flood, by Norfolk; dam, Hennie Farrow.
Theo. Winters, Winters, Yolo County—O. C. Brien, by Norfolk; dam, Ballerena.

MARES.

Four years old and over, with colt.

John A. Cardinell, San Francisco—Mamie C., by imported Hercules; dam, by Langford; colt, by Wild Idle.
John A. Cardinell, San Francisco—Lady Clara, by Norfolk; dam, Versalia; colt, by Wild Idle.
John A. Cardinell, San Francisco—Abbie W., by Don Victor; dam, Mary Chilton; colt, by Wild Idle.
Theo. Winters, Winters, Yolo County—Hennie Farrow, by imported Shamrock; dam, by imported Belshazzer; colt, by Norfolk.

Four years old and over.

J. C. Simpson, Oakland—Lady Amanda, by imported Hurrah; dam, Lady Lancaster.
Theo. Winters, Winters, Yolo County—Ballerena, by imported Balrownie; dam Hennie Farrow.
Theo. Winters, Winters, Yolo County—Maggie Dale, by Owen Dale; dam, Marguerita.
J. Arnet, Alameda County—Queen Emma, by Woodburn; dam, Peggy Ringold.

Two years old.

Henry Walsh, San Francisco—Carrie C., by Monday; dam, Annett.

One year old.

Theo. Winters, Winters, Yolo County—Not named, by Norfolk; dam, imported Lady June, by Marauder.
Theo. Winters, Winters, Yolo County—Not named, by Langford; dam, Laura Barnes, by Norfolk.

Filly, under one year old.

Jno. A. Cardinell, San Francisco—Tillie C, by Wild Idle; dam, Abbie W.
Jno. A. Cardinell, San Francisco—Eliza Dolph, by Wild Idle; dam, Mamie C.

FAMILIES.

Thoroughbred sire, with not less than ten of his colts, all thoroughbred.

Theo. Winters, Winters, Yolo County—Norfolk, and ten of his colts.

Stallion, other than thoroughbred, with not less than ten of his colts, open to all.

W. O. Jennings, Black's Station, Yolo County—Dare, and ten of his colts.

Dam, other than thoroughbred, with not less than three of her colts.

A. S. Chapman, Suisun—Black Maggie, with three colts—Lady Norfolk, Jack Downing, and Theodore, by Norfolk.

Carl Halverson, Sacramento—Belle, with four colts—Queen, Ben Franklin, Lady Grant, and Gen. Sherman, by John Bull and Black Ralph.

I. W. Richmond, Sacramento—Flora, with three colts—Tradewind, Nettie, and suckling filly, by Bellfounder.

J. T. Hadley, Yolo—Fan, with three colts—Mollie, Lucy, and Jane, by Bruce, and Alice, by Monarch.

E. G. Downer, Freeport—Gypsy, with three colts—Presto, by Fred Low, Daisy Downer, by Copperhead, and Coperades, by Tony Washington.

CLASS II.—GRADED HORSES.

STALLIONS.

Four years old and over.

Robt. T. Warden, Marin County—Eclipse, by Eclipse; dam, Mollie Higgins.

John Griggs, Woodland—St. John, by John Nelson; dam, Black Eagle.

Two years old.

A. S. Chapman, Suisun—Jack Downing, by Norfolk; dam, Black Maggie.

One year old.

Edmond Colbert, Princeton—California Star, by Ulster Chief; dam, by Robt. Burns.

Colt under one year old.

A. S. Chapman, Suisun—Theodore, by Norfolk; dam, Black Maggie.

Carl Halverson, Sacramento—General Sherman, by Bayswater; dam, Belle, by colt of Missouri Chief.

Ben. E. Harris, San Francisco—Prince, by McClellan; dam, Lady Silver.

MARES.

Four years old and over.

A. S. Chapman, Suisun—Lady Norfolk, by Norfolk; dam, Black Maggie.

Four years old and over, with colt.

A. S. Chapman, Suisun—Black Maggie, by Tom. Clay; colt, by Norfolk.

Chas. H. Shear, Sacramento—Alicia Mandeville, by Boston Boy; dam, Peggy McGee; colt, by G. M. Patchen, Jr.

Ben. E. Harris, San Francisco—Lady Silver, by Jack Hawkins; colt, by McClellan.

Two years old.

H. B. Cotting, Sacramento—Nellie, by Gold Eagle.

J. B. Odbert, Sacramento County—Pet, by Bellfounder; dam, Morgan mare.

CLASS III.—HORSES OF ALL WORK.

STALLIONS.

Four years old and over.

Fred. Bable, Yolo County—Baden Baden, by Tecumseh stock.

L. U. Shippee, Stockton—Henry Clay, by David Hill; dam, a Clay mare.

H. A. Mayhew, Oakland—Alonzo Hayward, by Billy Hayward; dam, an emigrant mare from Kentucky.

J. Richmond, Sacramento—Tradewind, by Fly-by-Night; dam, by General Taylor.

A. S. Cooper, Galt—Norman Wonder, by Napoleon II.

Francis Cox, Sheldon, Sacramento County—Young Clydesdale, by Clydesdale.

P. M. Warn, Sutter County—Grey Eagle, by imported Black Prince.

Three years old.

J. R. Myers, San Joaquin—Frank, by Henry Clay; dam, Lady Sampson.

R. T. Warden, Marin County—Warwick, by John Nelson; dam Daisy.

J. H. Scott, Sacramento—Young Rattler, by Rattler; dam, Hambletonian.

Two years old.

Fred. Bable, Yolo County—Canadian Boy, by Tecumseh stock.
A. Tapper, Sacramento County—Pete, by Black Eagle.

One year old.

Fred. Bable, Yolo County—Fred. Bable, by Tecumseh stock; dam, Rose Bable.
W. O. Jennings, Black's Station, Yolo County—Colt, by Dave; dam, Black Eagle.

MARES.

Four years old and over, with colt.

E. Price, Sacramento—Sallie More, by Geo. More, Jr.; dam, Nellie Morgan; colt, by Hamilton's Prince.
Carl Halverson, Sacramento County—Belle, by Missouri Chief's stock.
James L. Clark, Sacramento County—Belle Clark, by Belmont; colt, by Ethan Allen.
N. Hawk, Yolo County—Mare Jane, by St. Clair; colt, by Black Ralph.
W. O. Jennings, Black's Station, Yolo County—Mare, by Bruce; colt, by Dave.
P. H. Fisher, Brighton—Julia, by Ben Dragon; colt, by Prince Albert.
Francis Cox, Sheldon, Sacramento County—Mare, by Clydesdale; colt, by Idol,
J. E. Roberts, Sacramento—Mollie Stark, by David Hill, Jr.; colt, by Black Hawk.
J. Wooden & Co., Petaluma—Feeley, by Denmark; colt, by Superior.

Four years old and over.

E. Pierce, Sacramento—Lucy More, by Geo. More, Jr.; dam, Nellie Morgan.
Fred. Bable, Yolo County—Rose Bable, by Young Rattler.
Carl Halverson, Sacramento—Belle, by Missouri Chief's stock.
J. T. Hadley, Yolo—Mollie, by Ben Bruce; dam, Fanny.
E. Comstock, Yolo—Coley, by John Nelson.
J. Wooden & Co., Petaluma—Lucy, by Independence.

Three years old.

J. T. Hadley, Yolo—Lucy, by Ben Bruce; dam, Fanny.

Two years old.

J. W. Richmond, Sacramento—Nettie, by Bellfounder; dam, Flora.

One year old.

John Kennedy, Sacramento—Darting Kate, by Black Ralph; dam, a Morgan mare.

CLASS IV.—STALLIONS.

DRAFT HORSES.

Four years old and over.

A. Sackrider, Oakland—Pacific, by Percheron stock.
A. Sackrider, Oakland—Emperor Napoleon, by Percheron stock.
A. Sackrider, Oakland—Paris Boy, by Percheron stock.
G. W. Woodard, Yolo County—Monarch.
R. J. Merkley, Sacramento—Normandy.
J. Wooden & Co., Petaluma—Eure-et-Loir, by imported Norman.
J. Wooden & Co., Petaluma—Lord Clyde, by imported Norman.
D. Hamilton, Yolo County—Aiden, by Sulky John.
J. W. Anderson, Hydesville, Humboldt County—Leon, by imported Norman.
J. S. Dallman, Marysville—Eureka, by imported Norman.
H. Mecham, Petaluma—Duke DeChartres, by imported Norman.

Three years old.

J. H. Scott, Sacramento—Young Prince Albert, by Prince Albert; dam, Kentucky Whip.
J. Wooden & Co., Petaluma—Sensation, by Duppe.
J. Wooden & Co., Petaluma—Enterprise, by Favorite.

Two years old.

Carl Halverson, Sacramento—Franklin, by John Bull; dam, Belle.
J. Wooden & Co., Petaluma—Tornado, by St. Laurent; dam, Eureka.
J. Wooden & Co., Petaluma—Iron Clad, by St. Laurent.

One year old.

J. Wooden & Co., Petaluma—Duke 2d, by Duke DeChartres.
A. Strobridge, Sacramento—John.

MARES.

Four years old and over, with colt.

G. W. Woodard, Yolo County—Hattie, by Bruce Clay, Jr.; colt, by Monarch.

Chris. Thodt, Dixon—Nellie, by imported Boulogne; colt, by Lafayette.
A. Strobridge, Sacramento—No name, and colt.

Four years old and over.

Chris. Thodt, Dixon—Lucy, by Tickle-my-Fancy.
A. Tapper, Sacramento County—Fan, by Planter.
E. Comstock, Yolo County—Polly, by Argyle.

Three years old.

Carl Halverson, Sacramento—Queen, by John Bull; dam, Belle.

Two years old.

Chris. Thodt, Dixon—Fannie, by Farmer.
J. T. Hadley, Yolo County—Jane, by Bruce; dam, Fannie.
E. Comstock, Yolo County—Maud, by William Wallace; dam, Polly.

CLASS V.—ROADSTERS.

STALLIONS.

Four years old and over.

H. A. Mayhew, Oakland—Billy Hayward, by Geo. M. Patchen, Jr.; dam, Grey Peanuts.
Thomas Finlayson, Oregon—Peacock, by Black Hawk.
H. Schlutins, Sacramento County—Lightning, Jr., by Young Lightning; dam, Lummox.
Wm. Knapp, Pescadero—Niagara, by Tom Wonder; dam, Abdallah.
James Gannon, San Francisco—Sam Purdy, by Geo. M. Patchen, Jr., by Illinois Medoc.

Three years old.

H. A. Mayhew, Oakland—Poscora Hayward, by Billy Hayward; dam, Young Black Bess.
J. A. Cardinell, San Francisco—John Nelson, Jr., by John Nelson; dam, Dixie.
R. McEnespy, Butte County—Captain Jinks, by Blackbird; dam, Lancet mare.

Two years old.

D. M. Reavis, Chico—Heitzic, by Blackbird; dam, a Dave Hill mare.

GELDINGS.

Four years old and over.

Charles St. Louis, Yolo County—Black Eagle, by Black Eagle.
L. H. Titus, Los Angeles—Bullet, by Echo.
James McM. Shafter, San Francisco—Rob Roy, by General Taylor.
J. S. Wheeler, Sacramento—Mike Murphy, by St. Clair, Jr., by St. Clair.
J. M. Estudillo, Sacramento—Waverly, by Kentucky Hunter.
H. A. Mayhew, Oakland—Bret Harte, by Young Hunter, by Jack Hawkins.
A. P. Hill, San José—Grey.
A. D. Miller, Brighton—Horse by St. Clair, Jr.; dam, Black Hawk.
L. J. Rose, Los Angeles—Horse by The Moor; dam, Morgan.
William Brewster, Galt—Experiment, by Black Eagle.
T. Donahoe, San Francisco—Gold Note, by Niagara, by Belmont.

MARES.

Four years old and over.

William Hawkins, Sacramento—Susie Brown, by Black Bird; dam by Billy McCracken.
Thos. Scott, Sacramento—Mary, by Rattler; dam by Glencoe.
Thos. Scott, Sacramento—Jane, by Rattler; dam by Messenger.
E. G. Downer, Freeport—Daisy, by Young Washington; dam, Gypsy.
E. M. Skaggs, Sacramento—Mary Davis, by Young Rattler; dam, Lady Rotan.
J. E. Roberts, Sacramento—Clara Pugh, by Dave Hill; dam, by Black Hawk.
J. Sessions, Oakland—Betsey Field.

Two years old.

L. J. Rose, Los Angeles—A Rose, by The Moor; dam, by Clark Chief.

CLASS VII.

ROADSTER TEAMS.

Double team roadsters owned and used as such by one person.

J. McIntyre, San Francisco—Tommy Dodd and mate, by Alexander.
J. R. Madden, Dixon—Flying Nellie and Limber George, by Missouri Chief.
James L. Clark, Sacramento—Ethan Allen and Henry Ward Beecher, by Fly-by-Night.

CLASS VIII.

SADDLE HORSES.

Mrs. W. C. Van Fleet, Sacramento—Ned Forrest.
E. A. Bridgford, Colusa—Monroe Belle, by Randolph.
E. A. Bridgford, Colusa—Ned Forrest, by Drennon.
A. S. Cooper, Galt—Charley, dam by Red Bird.

GELDING FOR ALL PURPOSES.

G. W. Woodard, Yolo County—Roy, by Don Juan; dam, Mary Riggs.
A. D. Miller, Brighton—Red Bird, by Black Ralph.

CLASS IX.

YEARLING HORSE COLTS.

P. J. Shafter, Olema—Sunbeam, by Rustic; dam, by Stockbridge Chief.
James H. Dubose, Yolo County—N. Greene Curtis, by Fred. Low; dam, St. Clair mare.
J. Blythe, Solano County—Don Pedro, by Idol.

SUCKLING HORSE COLTS.

E. Pierce, Sacramento—St. Patrick, by Hambletonian Prince; dam, Sallie Moore.
G. W. Woodard, Yolo County—Success, by Monarch; dam, Hattie.
J. Wooden & Co., Petaluma—Jupiter, by Superior; dam, Feeley.
A. Strobridge, Sacramento—Idol, by Idol.
A. Hawks, Yolo County—Colt, by Black Ralph; dam, Jane.
P. H. Fisher, Brighton—Bodine No. 2, by Prince Albert; dam Jule.
E. Comstock, Yolo County; Prince; dam, Polly.
B. E. Harris, San Francisco—Arthur H, by California Dexter; dam, Princess.

YEARLING MARE.

Carl Halverson, Sacramento County—Lady Grant, by Black Ralph; dam, Belle.

SUCKLING MARE COLTS.

J. W. Richmond, Sacramento—Mary, by Ethan Allen; dam, Flora.
R. J. Merkley, Sacramento—Maggie, by Lafayette; dam Nellie.
J. Wooden & Co., Petaluma—Dora, by Superior; dam, Lucy.
J. T. Hadley, Yolo County—Alice, by Monarch; dam, Fannie.
Ben. E. Harris, San Francisco—Gypsy, by Irwin Davis; dam, Lady Patterson.

CLASS X.—SWEEPSTAKES.

STALLIONS.

A. S. Chapman, Suisun—Jack Downing, by Norfolk; dam, Black Maggie.
Theodore Winters, Winters, Yolo County—Norfolk, by Lexington; dam, Novice, by Glencoe.
D. M. Reavis, Chico—Heitzic, by Black Bird; dam, Dave Hill mare.
L. U. Shippee, Stockton—Henry Clay, by Dave Hill; dam, Clay mare.

MARES.

A. S. Chapman, Suisun—Lady Norfolk, by Norfolk; dam, Black Maggie.
J. R. Merkley, Sacramento—Nellie, by imported Boulogne; dam, by Norman Joe.
Theodore Winters, Winters, Yolo County—Hennie Farrow, by imported Shamrock; dam, by imported Belshazzer.
Theodore Winters, Winters, Yolo County—Ballerena, by imported Balrownie; dam, Hennie Farrow.

JACKS.

Four years old and over.

W. O. Jennings, Black's Station, Yolo County—Honest John, by Black Hawk; dam, Maltese.

SPAN MULES.

W. O. Jennings, Black's Station, Yolo County—Jennie and Julia.
J. W. Childs, Woodland—Katie and Sam.

CLASS I—DURHAM CATTLE.

BULLS.

Four years old and over.

A. Whitaker, Sacramento—Amos Ladd.
J. B. Redmond, Marin County—Lalla Rookh 4th, by Lalla Rookh.
D. M. Reavis, Chico—Stonewall.
E. Comstock, Yolo County—Duke, by Monkey John.

Three years old.

Coleman Younger, San José—Red Thorndale, by Thorndale.
I. N. Hoag, Yolo County—Yolo Chief, by 2d Duke of Yuba.

Two years old.

Coleman Younger, San José—Airdrie Thorndale, by Thorndale.
Coleman Younger, San José—King David, by Thorndale.
M. Bright, Sacramento—Duke Sharon, by Earl of Napier.
D. M. Reavis, Chico—2d Duke of Chico, by Lancaster 2d.

One year old.

D. M. Reavis, Chico—6th Duke of Chico, by Stonewall.
E. Comstock, Yolo County—Hayes, by Amos Ladd.

Bull calf.

Coleman Younger, San José—2d Duke Forest Home, by Airdrie Thorndale.
A. J. Scoggins, Tulare—1st Duke of Tulare, by Governor Irwin.
A. J. Scoggins, Tulare—Muscle Duke, by Red Lewis.
J. R. Merkley, Sacramento—Don Cæsar, by Amos Ladd.
D. M. Reavis, Chico—7th Duke of Chico, by Stonewall.
D. M. Reavis, Chico—8th Duke of Chico, by Stonewall.
E. Comstock, Yolo County—Leopard, by Master Maynard.

COWS.

Four years old and over.

Coleman Younger, San José—Sprightly, by Jeff. Davis.
Coleman Younger, San José—Gem, by Glencoe.
Mike Bryte, Sacramento—Esther, by Duke of Houston.
A. J. Scoggins, Tulare—Nelly Bly, by Locomotive.
J. B. Redmond, Marin County—Queen 2d, by Lalla Rookh.
J. B. Redmond, Marin County—True Heart 34th, by Lalla Rookh.
R. J. Merkley, Sacramento—Hellen Eyre, by General Reno.
D. M. Reavis, Chico—Rosa Lee.
D. M. Reavis, Chico—Cora Lee.
D. M. Reavis, Chico—Goodness.
D. M. Reavis, Chico—Minnie.
D. M. Reavis, Chico—Sallie Sharp.
D. M. Reavis, Chico—Louann of Ashley.

COW AND CALF.

Coleman Younger, San José—Forest Rose, by Glencoe.
Coleman Younger, San José—Red Dolly, by Thorndale.
Mike Bryte, Sacramento—Queen Bess, by Duke Aurum.
A. J. Scoggins, Tulare—Jenny McClene, by General Early; calf, Daisy.
A. J. Scoggins, Tulare—Essa, by Major Wheeler; calf, 1st Duke of Tulare.
Mike Bryte, Sacramento—Rosalie, by Duke of Forest Home; calf, O. Plummer.

COWS.

Three years old.

Coleman Younger, San José—Rosa Nell, by Thorndale.
J. B. Redmond, Marin County—Bertha 33d, by Lalla Rookh.

Two years old.

Coleman Younger, San José—Rosa Nell, by Thorndale.
Coleman Younger, San José—1st Golden Gate, by Thorndale.
Coleman Younger, San José—1st Thorndale Rose, by Thorndale.
Coleman Younger, San José—Roan Dolly, by Thorndale.
J. B. Redmond, Marin County—True Heart 36th, by Lalla Rookh.
R. J. Merkley, Sacramento—Edith Elkin, by Lone Star.

One year old.

Coleman Younger, San José—2d Rose Forest Home, by Thorndale.

Mike Bryte, Sacramento—Queen of Ash Grove, by Almas Grand Duke.
Mike Bryte, Sacramento—Centennial Rose, by Almas Grand Duke.
Mike Bryte, Sacramento—Esther 3d, by Baron Bartram 6th.
Mike Bryte, Sacramento—Highland Lass, by imported Scotchman.
J. B. Redmond, Marin County—True Heart 37th, by Lalla Rookh.
R. J. Merkley, Sacramento—Ruby, by Amos Ladd.
D. M. Reavis, Chico—8th Belle of Chico, by Stonewall.

Heifer Calf.

Coleman Younger, San José—4th Rose Forest Home, by Airdrie Thorndale.
Coleman Younger, San José—Red May, by Airdrie Thorndale.
Coleman Younger, San José—Amelia 5th, by Airdrie Thorndale.
Coleman Younger, San José—Red Dolly 2d, by Airdrie Thorndale.
A. J. Scoggins, Tulare—Daisy, by Governor Irwin.
J. B. Redmond, Marin County—True Heart 41st, by Lalla Rookh.
R. J. Merkley, Sacramento—Maritana, by Amos Ladd.
D. M. Reavis, Chico—9th Belle of Chico, by Stonewall.
D. M. Reavis, Chico—10th Belle of Chico, by Stonewall.
D. M. Reavis, Chico—11th Belle of Chico, by Stonewall.

STEER.

J. B. Redmond, Marin—Four-year old steer; weight, 2,483 pounds.

ALDERNEY AND JERSEY IN ONE CLASS.

BULLS.

Four years old and over.

James McM. Shafter, San Francisco—Surprise, by Orphan Boy.

Three years old.

P. Stanton, Sacramento—Fernando.

Two years old.

Mahon & Stanton, Sacramento County—Merced.
Mark Hopkins, San Francisco—Duke Alexis.

One year old.

P. Stanton, Sacramento—De Buffe.
Mahon & Stanton, Sacramento County—Mexico.
Mahon & Stanton, Sacramento County—Keiser.
N. McDonald, Sacramento—Rover, by Volunteer.

BULL CALF.

L. C. Powers, Sacramento—Hambra, by Volunteer.
P. Stanton, Sacramento—Romeo.
P. Stanton, Sacramento—Rodgers.
Mahon & Stanton, Sacramento County—Modoc.
G. W. Colby, Nord, Butte County—Dan, by Stanton.
Mark Hopkins, San Francisco—Alex.

COW AND CALF.

P. Stanton, Sacramento—Cream Pot 5th.
Mark Hopkins, San Francisco—Daisy 3d.

COW.

Four years old and over.

E. F. Aitken, Sacramento—Jessie, by Bill Nye 293d.
Jas. McM. Shafter, San Francisco—May Flower, by Comet.
L. C. Powers, Sacramento—Lalla Rookh, by Orphan.
P. Stanton, Sacramento—Magna.
P. Stanton, Sacramento—Irene.
Mahon & Stanton, Sacramento County—Rose.
Mahon & Stanton, Sacramento County—Primrose.
Mahon & Stanton, Sacramento County—Daffodil.
Jas. McM. Shafter, San Francisco—Rowena 2d.

Three years old.

L. C. Powers, Sacramento—Minnie 4th, by Hector of Plymouth Rock.

Two years old.

L. C. Powers, Sacramento—Lalla Rookh 2d, by Volunteer.

P. Stanton, Sacramento—Caliente.
Mahon & Stanton, Sacramento County—Mollie Pitcher.

One year old.

P. Stanton, Sacramento—Ione.
Mahon & Stanton, Sacramento County—Floss.

Heifer Calf.

E. F. Aitken, Sacramento—Lillie, by Lake's bull.
L. C. Powers, Sacramento—Maid of Oakland, by Volunteer.
P. Stanton, Sacramento—Daisy.
P. Stanton, Sacramento—Cleopatra.
Mahon & Stanton, Sacramento County—Pauline.

DEVONS, HEREFORDS, AYRSHIRES, HOLSTEINS, AND HOLDERNESS IN ONE CLASS.

BULLS.

Four years old and over.

Mike Bryte, Sacramento—Dunbar, by McDuff.

Two years old.

R. McEnespy, Chico—Blucher.

One year old.

Mike Bryte, Sacramento—Mose Drew, by Dunbar.

COWS.

Four years old.

Mike Bryte, Sacramento—Roxie, by Comet 3d.
Mike Bryte, Sacramento—Thankful, by Dunbar.
R. McEnespy, Chico—Nelly.
R. McEnespy, Chico—Annie.

Two years old.

Mike Bryte, Sacramento—Lizzie, by Dunbar.

One year old.

Mike Bryte, Sacramento—Carrie May, by Dunbar.

Herd of thoroughbred cattle over two years old, to consist of one male and four females, owned by one person.

Coleman Younger, San José—Red Thorndale, with Sprightly, Gem, Bonnie Belle, and Rosa Nell.
Coleman Younger, San José—King David, with 1st Rosa Nell, 1st Golden Gate, 1st Thorndale Rose, and Roan Dolly.
D. M. Reavis, Chico—Stonewall, with Rosa Lee, Goodness, Minnie, and Cora Lee.

Herd of thoroughbred cattle under two years old, one male and four females.

Coleman Younger, San José—2d Duke of Forest Home, with 4th Rose Forest Home, Red Mary, Amelia 5th, and Red Dolly 2d.
D. M. Reavis, Chico—6th Duke of Chico, with 8th, 9th, 10th, 11th Belles of Chico.

CLASS II.—GRADED CATTLE.

COWS.

Four years old and over.

E. Comstock, Yolo County—Chub.

Three years old.

I. N. Hoag, Yolo County—Beauty, by Jersey breed.
E. Comstock, Yolo County—Mary, by Duke.

Two years old.

E. Comstock, Yolo County—May Queen, by Duke.

One year old.

E. Comstock, Yolo County—Speck, by Duke.

Heifer calf.

E. Comstock, Yolo County—Spot, by Duke.

MILCH COW.

E. Comstock, Yolo County—Woods.

SPECIAL GRADED.

One year old bull.

I. N. Hoag, Yolo County—Jersey, by Yolo Chief.
I. N. Hoag, Yolo County—Sterling, by Yolo Chief.

CLASS III.—SWEEPSTAKES.

Bull of any age or breed.

Coleman Younger, San José—Red Thorndale, by Thorndale.
James McM. Shafter, San Francisco—Surprise, by Orphan 891st.
D. M. Reavis, Chico—Stonewall.
D. M. Reavis, Chico—2d Duke of Chico, by Lancaster 2d.
Mike Bryte, Sacramento—Duke of Sharon, by Earl of Napier.
J. B. Redmond, Marin County—Lalla Rookh 4th, by Lalla Rookh.

Cow of any age or breed.

D. M. Reavis, Chico—Rosa Lee.
D. M. Reavis, Chico—Goodness.
D. M. Reavis, Chico—Cora Lee.
R. J. Merkley, Sacramento—Helen Eyre, by General Reno 4737th.
Coleman Younger, San José—Sprightly, by Jeff. Davis.
Coleman Younger, San José—Gem, by Glencoe.
A. J. Scoggins, Tulare—Nelly Bly, by Locomotive.
J. B. Redmond, Marin County—Queen the 2d, by Lalla Rookh.

Bull, and five of his calves under one year old.

Coleman Younger, San José—Airdrie Thorndale, with 4th Rose Forest Home, Red Mary, Amelia 5th, Red Dolly 2d, and 2d Duke Forest Home.
D. M. Reavis, Chico—Stonewall, with 7th and 8th Dukes of Chico, and 9th, 10th, and 11th Belles of Chico.

SHEEP.

SPANISH MERINO.

Rams two years old and over.

L. U. Shippee, Stockton—Saxon Boy.
L. U. Shippee, Stockton—California Boy.
L. U. Shippee, Stockton—Not named.

One year old and under two.

L. U. Shippee, Stockton—Ben.
L. U. Shippee, Stockton—Dick.
L. U. Shippee, Stockton—Bob.

Three ram lambs.

L. U. Shippee, Stockton—Pen of three ram lambs.
George W. Hancock, Sutter County—Pen of three ram lambs.
Fred. Cox, Sacramento—Pen of three ram lambs.

Pen of five ewes two years old and over.

L. U. Shippee, Stockton.
George W. Hancock, Sutter County.
L. U. Shippee, Stockton.

Five ewes one year old and under two.

L. U. Shippee, Stockton.

Five ewe lambs.

L. U. Shippee, Stockton.
George W. Hancock, Sutter County.

Ram and five of his lambs.

L. U. Shippee, Stockton—Saxon Boy and five lambs.

FRENCH MERINO AND SILESIAN.

Rams two years old and under.

Mrs. R. Blacow, Centerville, Alameda County—Domingo, Jr.
Mrs. R. Blacow, Centerville, Alameda County—Pirate.

One year old and under two.

Mrs. R. Blacow, Centerville—Romney.
Mrs. R. Blacow, Centerville—Gladiator.

Three lambs.

Mrs. R. Blacow, Alameda County—Pen of three ram lambs.

Five ewes two years old and over.

Mrs. R. Blacow, Alameda County—Pen of five ewes.

Five ewes one year old and under two.

Mrs. R. Blacow, Alameda County—Pen of five ewes.

Five ewe lambs.

Mrs. R. Blacow, Alameda County—Pen of five ewe lambs.

Ram and five of his lambs.

Mrs. R. Blacow, Alameda County—Domingo, Jr., and five of his lambs.

Cotswold, Leicestershire, Lincolnshire, Shropshire, and a cross between any two thoroughbreds.

Mrs. R. Blacow, Alameda County—Proud Salopian and five of his lambs.

GRADED.

George W. Hancock, Sutter County—Pen of five ewe lambs.

SWEEPSTAKES.

Ram of any age or breed, and five of his lambs.

L. U. Shippee, Stockton—Saxon Boy and five of his lambs.
Mrs. R. Blacow, Alameda County—Domingo, Jr., and five of his lambs.

GOATS.

THOROUGHBRED.

Bucks two years old and over.

Landrum & Rodgers, Santa Cruz County—Robert Lee.
Gilmore Angora Goat Breeding Association, El Dorado—Omar Pasha.
S. P. Thomas, Sacramento—John Gilpin.

Under three years old.

Landrum & Rodgers, Santa Cruz County—Bartlett.
Gilmore Angora Goat Breeding Association, El Dorado—Mark Anthony.
S. P. Thomas, Sacramento—Frank.

Three does two years old and over.

Landrum & Rodgers, Santa Cruz County—Pen of three does.
Gilmore Angora Goat Breeding Association, El Dorado—Pen of three does.
S. P. Thomas, Sacramento—Pen of three does.

Three does under two years.

Landrum & Rodgers, Santa Cruz County—Pen of three does.
Gilmore Angora Goat Breeding Association, El Dorado—Pen of three does.
S. P. Thomas, Sacramento—Pen of three does.

GRADED.

Does two years old and over.

Gilmore Angora Goat Breeding Association, El Dorado—Pen of three does.
S. P. Thomas, Sacramento—Pen of three does.

Does under two years old.

Gilmore Angora Goat Breeding Association, El Dorado—Pen of three does.
S. P. Thomas, Sacramento—Pen of three does.

SWEEPSTAKES.

Buck.

S. P. Thomas, Sacramento—John Gilpin.
Landrum & Rogers, Santa Cruz County—Bob Lee.
Gilmore Angora Goat Breeding Association, El Dorado—Mark Anthony.

Doe.

S. P. Thomas, Sacramento—Queen of Placer.
Gilmore Angora Goat Breeding Association, El Dorado—Cleopatra.

Pen of ten kids.

Landrum & Rodgers, Santa Cruz County—Pen of ten kids.
Gilmore Angora Goat Breeding Association, El Dorado—Pen of ten kids.

SWINE.

ESSEX AND BERKSHIRE.

Boars two years old and over.

John Rider, Sacramento—Duke Alexis.
I. N. Hoag, Yolo County—Black Jake.

Under two years old.

I. N. Hoag, Yolo County—Hayes.
E. Comstock, Yolo County—Jake.

Pigs six to ten months old.

I. N. Hoag, Yolo County—Pair of pigs.
Mike Bryte, Sacramento—Pair of pigs.
E. Comstock, Yolo County—Jim and Jennie.

Boar six months and under one year.

John Rider, Sacramento—Commodore.
Mike Bryte, Sacramento—Oshkosh Prince.
I. N. Hoag, Yolo County—General Taylor.
E. Comstock, Yolo County—Ben.

Breeding sow.

John Rider, Sacramento—Iowa Belle.
Mike Bryte, Sacramento—Black Queen.
E. Comstock, Yolo County—Bettie.
E. Comstock, Yolo County—Rosa.

Sow six months and under one year.

John Rider, Sacramento—Princess of Wooddale.
I. N. Hoag, Yolo County—Cleopatra.
E. Comstock, Yolo County—Mary.

POLAND-CHINA AND CHESTER WHITES.

Boars two years old and over.

D. Hamilton, Grafton, Yolo County—Abe.
W. B. Gibson, Woodland, Yolo County—Bismarck.

Under two years old.

Robert Roberts, Grafton, Yolo County—Rutherford.

Six months and under one year old.

W. C. Thomas, Woodland—Frederick.

Breeding sow.

E. F. Aitken, Sacramento—Dolly.
Robert Roberts, Grafton, Yolo County—Nellie.

Sow six months and under one year old.

Robert Roberts, Grafton, Yolo County—Maud.

Pair of pigs six to ten months old.

E. F. Aitken, Sacramento—Pair of pigs.
Robert Roberts, Grafton, Yolo County—Henry and Alice.

SWEEPSTAKES.

Boar of any age or breed.

John Rider, Sacramento—Duke Alexis.
Mike Bryte, Sacramento—Oshkosh Prince.
W. B. Gibson, Woodland—Bismarck.
I. N. Hoag, Yolo County—Black Jake.
W. C. Thomas, Woodland—Frederick.

Sow of any age or breed.

John Rider, Sacramento—Lady Knapp.
Mike Bryte, Sacramento—Black Queen.

Pen of six pigs.

E. F. Aitken, Sacramento—Pen of six pigs.

I. N. Hoag, Yolo County—Pen of six pigs.
Robert Roberts, Grafton—Pen of six pigs.
E. Comstock, Yolo County—Pen of six pigs.

POULTRY.

E. F. Aitken, Sacramento—One coop of White Leghorns.
John Herring, Sacramento—One coop of White Leghorns.
A. P. Stewart, Sacramento—One coop of White Leghorns.
U. M. Reese, Sacramento—One coop of Brown Leghorns.
John Herring, Sacramento—One coop of Brown Leghorns.
John Herring, Sacramento—One coop of Silver-Spangled Hamburgs.
Elmer Davis, Sacramento—One coop and one pair of Polands.
R. Davis, Sacramento—Two pairs of Bantams.
U. M. Reese, Sacramento—One coop of Bantams.
John Herring, Sacramento—One coop of Bantams.
John Herring, Sacramento—One coop of Light Brahmas.
John Herring, Sacramento—One coop of Dark Brahmas.
E. F. Aitken, Sacramento—One coop of Dark Brahmas.
John Herring, Sacramento—One coop of White Cochins.
John Herring, Sacramento—One coop of Buff Cochins.
Elmer Davis, Sacramento—One coop of Buff Cochins.
F. P. Lowell, Sacramento—Trio of Buff and Partridge Cochins.
A. P. Stewart, Sacramento—One coop of Buff Cochins.
Mrs. W. V. Miller, Brighton—Trio of Buff Cochins.
F. S. George, Sacramento—Trio of Black Spanish.
P. H. Fisher, Brighton—One pen of Turkeys.
P. H. Fisher, Brighton—One pen of Bronze Turkeys.
Mrs. W. V. Miller, Brighton—One pen of Bronze Turkeys.
John Harwin, Sacramento—One coop of Ducks.
P. H. Fisher, Brighton—One coop of Mallard Ducks.
Mrs. W. V. Miller, Brighton—Trio of Ducks.
John Harwin, Sacramento—Trio of Geese.
Mrs. W. V. Miller, Brighton—Trio of Geese.
P. H. Fisher, Brighton—One lot of Jay Geese.
P. H. Fisher, Brighton—One lot of English Geese.

SWEEPSTAKES.

Trio of fowls, any age or breed.

P. H. Fisher, Brighton—Coop of Bronze Turkeys.
P. H. Fisher, Brighton—Coop of Ducks.
P. H. Fisher, Brighton—Coop of Geese.
John Herring, Sacramento—Trio of White Cochins.

ARTICLES EXHIBITED AT THE PARK.

SECOND DEPARTMENT—MACHINERY, ENGINES, ETC.

CLASS I.

Baker & Hamilton, Sacramento—One No. 4 Ames' straw-burning portable engine.
J. C. Hoadley & Company, Lawrence, Massachusetts—Straw-burning portable engine, 7½x10.
M. C. Hawley & Company, Sacramento—Rice's portable straw-burning engine, top-mounted.
M. C. Hawley & Company, Sacramento—Rice's portable straw-burning engine, side-mounted.

CLASS II.

Baker & Hamilton, Sacramento—One forty-inch genuine Buffalo Pitt's thresher, with late improvements.
Baker & Hamilton, Sacramento—Hollingsworth horse hay rake.
Baker & Hamilton, Sacramento—Tiger horse hay rake.
William Laufkotter, Sacramento—One sweep horse power.
M. C. Hawley, Sacramento—Two gold medal separators.

M. C. Hawley, Sacramento—One Taylor self-dumping horse hay rake.
M. C. Hawley, Sacramento—One perpetual hay press.
M. C. Hawley, Sacramento—Three Orchard post-hole augers.
M. C. Hawley, Sacramento—Three Orchard well augers.
A. D. Miller, Brighton—One Miller horse power hay press.
M. R. Rose, Sacramento—One sweep horse power.
Sacramento Plow Company, Sacramento—One sweep horse power.

CLASS III.

Thomas A. Burke, Amador—Two of Randall's pulverizing harrows.
Baker & Hamilton, Sacramento—One Champion self-raking and reaping machine combined.
Baker & Hamilton, Sacramento—One Champion No. 4 mowing machine.
Baker & Hamilton, Sacramento—One Champion light mowing machine.
Baker & Hamilton, Sacramento—One No. 2 Buckeye mowing machine.
Baker & Hamilton, Sacramento—One Buckeye mowing machine, new model.
Baker & Hamilton, Sacramento—One two-horse Gorham seeder.
W. F. Easterday, Watsonville—One corn and seed planter.
Charles Keehner, Roseville—One iron harrow.
S. B. Bowen, Stockton—One header.
Sweepstake Plow Company, San Leandro—One twelve-foot double single-geared sweepstake header, adjustable reel and carrier, stop lever.
Sweepstake Plow Company, San Leandro—Two Gem grain broadcast sowing machines.
Sweepstake Plow Company, San Leandro—Three iron frame adjustable-tooth harrows.
Sweepstake Plow Company, San Leandro—One nine-tooth chisel cultivators.
A. D. Nehr, Roseville—One seven-tooth iron cultivator.
A. D. Nehr, Roseville—One nine-tooth iron cultivator.
A. D. Nehr, Roseville—Four iron sectional harrows.
M. C. Hawley & Company, Sacramento—One two-horse Buckeye wheat drill.
M. C. Hawley & Company, Sacramento—One two-horse Buckeye broadcast sowing machine.
M. C. Hawley & Company, Sacramento—One meadow King mower.
Sacramento Plow Company, Sacramento—One California screw mowing machine.
Sacramento Plow Company, Sacramento—One horse hoe.
Sacramento Plow Company, Sacramento—One new model header.
Holly & Magoon, Stony Point, Sonoma County—One cultivator.
E. E. Ames, Sacramento—One McCormick combined reaper and mower.
Wm. Guttenberg, Sacramento—One field roller and clod crusher.

CLASS IV.

Bachelder Manufacturing Company, Napa—One twelve-foot windmill.
R. Erlandsen, San Leandro—One farm gate.
A. M. Abbott, Stockton—One relief windmill.
G. Lessenden & Company, Sacramento—One Pacific windmill.
L. W. Wooden, San Francisco—One Althouse windmill.
M. R. Rose, Sacramento—One self-regulating windmill.
M. C. Hawley & Company, Sacramento—Three regulating windmills.
M. C. Hawley & Company, Sacramento—Five bundles Glidden's barb wire for fence.
W. P. Fowler, Merced—One model bee-hive.
Nash & Klees, Sacramento—One grain separator and fanning mill.
Nash & Klees, Sacramento—One fanning mill.
L. P. Denney & Company, Biggs Station—One windmill.

CLASS V.

Sweepstake Plow Company, San Leandro—One improved road scraper.
Sweepstake Plow Company, San Leandro—One power for raising water for mining.
Sweepstake Plow Company, San Leandro—One power for raising water for irrigation.
William Laufkotter, Sacramento—One power for raising water for irrigation.
M. R. Rose, Sacramento—One well pump.
M. R. Rose, Sacramento—One set of pump valves.
M. C. Hawley & Company, Sacramento—One power for raising water for irrigation.

CLASS VI.—PLOWS.

P. L. Sheldford, Sonoma County—One gang subsoil, trench, and stubble plow.
G. Lessenden & Company, Stockton—One two-gang riding plow, "Star of the West."
G. Lessenden & Company, Stockton—One three-gang riding plow.
G. Lessenden & Company, Stockton—One sulky plow, "Star of California."
Isaac Burke, Sacramento—One two-gang sulky plow.
Isaac Burke, Sacramento—One sulky plow.
M. C. Hawley & Company, Sacramento—One iron-clad road plow.
Sweepstake Plow Company, San Leandro—One six-gang ten-inch Granger plow.
Sweepstake Plow Company, San Leandro—One five-gang ten-inch Granger plow.

Sweepstake Plow Company, San Leandro—One four-gang ten-inch Granger plow.
Sweepstake Plow Company, San Leandro—One three-gang ten-inch Granger plow.
Sweepstake Plow Company, San Leandro—One three-gang eight-inch Granger plow.
Sweepstake Plow Company, San Leandro—One five-gang eight-inch Granger plow.
Sweepstake Plow Company, San Leandro—One six-gang eight-inch Granger plow.
Sweepstake Plow Company, San Leandro—One three-gang twelve-inch Granger plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" twenty-two-inch sulky tule plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" twelve-inch two-gang sod plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" ten-inch two-gang stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" twelve-inch two-gang stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" ten-inch three-gang stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" single road plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" ten-inch single stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" twelve-inch single stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" fourteen-inch single stubble plow.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" ten-inch sulky-gang, with rolling coulter.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" twelve-inch sulky-gang, with rolling coulter.
Sweepstake Plow Company, San Leandro—One "Hill's Eureka" tule single plow, with rolling coulter.
Sweepstake Plow Company, San Leandro—Four extra steel bottoms for gang plows.
Sacramento Plow Manufacturing Company, Sacramento—One tule and breaking sulky plow.
Sacramento Plow Manufacturing Company, Sacramento—One two-gang plow.
Sacramento Plow Manufacturing Company, Sacramento—One three-gang plow.
Sacramento Plow Manufacturing Company, Sacramento—One twelve-inch left-hand steel stubble plow.
Sacramento Plow Manufacturing Company, Sacramento—Three assorted single right-hand steel stubble plows.
Sacramento Plow Manufacturing Company, Sacramento—One dozen extra bottoms for plows.
Sacramento Plow Manufacturing Company, Sacramento—Two one-horse iron beam plows.
Sacramento Plow Manufacturing Company, Sacramento—Two one-horse wooden beam plows.
E. E. Ames—One four-gang plow, "The Stockton Gang," with seed sower attachment.
E. E. Ames—One four-gang plow, "The Stockton Gang," with attachment for raising and lowering plows.
E. E. Ames—One Avery gang plow.
E. E. Ames—One Avery single sulky plow.
E. E. Ames—One Avery single and gang sulky plow combined.
E. E. Ames—Two Avery single walking plows.
E. E. Ames—Two Avery stubble plows.

CLASS VII—VEHICLES.

Sweepstake Plow Company, San Leandro—Two two-horse top family carriages.
Sweepstake Plow Company, San Leandro—Two two-horse double seated open carriages.
Sweepstake Plow Company, San Leandro—One two-horse spring market wagon.
Sweepstake Plow Company, San Leandro—One mountain top buggy.
Sweepstake Plow Company, San Leandro—One mountain open buggy.
E. E. Ames, Sacramento—One farm wagon for all purposes.
E. E. Ames, Sacramento—One four-spring wagon for delivering goods.
E. E. Ames, Sacramento—One four-spring top wagon for delivering goods.
E. E. Ames, Sacramento—One platform spring wagon—spring market wagon.
E. E. Ames, Sacramento—Assortment of Sarven wheels.
J. F. Hill, Sacramento—One farm wagon for all purposes.
J. F. Hill, Sacramento—One spring market wagon.
J. F. Hill, Sacramento—One street goods wagon.
J. F. Hill, Sacramento—One two-horse family carriage.
J. F. Hill, Sacramento—One fruit wagon.
J. F. Hill, Sacramento—One business wagon.
J. F. Hill, Sacramento—One four-spring top family carriage.
J. F. Hill, Sacramento—One four-spring open family carriage.

MISCELLANEOUS.

C. P. Hatch, Petaluma—One fruit, hop, and vegetable dryer.
W. H. Hampton, Davisville—Centennial shoulder-locking portable fence.

T. D. Hardesty, Sacramento—Tire tightener.
D. A. Calhoon, Texas—Ground squirrel exterminator.
Thompson & Upson, San Francisco—Single air-chamber boiler covering.
R. R. Doan, Sacramento—One fireman's road locomotive engine.
J. Q. Grinnell, Stockton—One Centennial field derrick, fork, and net.
D. H. Howes, Sacramento—Portable farm fence.

ARTICLES EXHIBITED AT THE PAVILION—LOWER HALL.

SECOND DEPARTMENT—MACHINERY, IMPLEMENTS, ETC.

CLASS I.

M. C. Hawley & Company, Sacramento—Portable steam engine.
M. C. Hawley & Company, Sacramento—Portable saw mill.
Huntington, Hopkins & Company, Sacramento—Hot air engine.
Huntington, Hopkins & Company, Sacramento—Saw gummer.
Huntington, Hopkins & Company, Sacramento—Two fire extinguishers.
W. B. Lewis, Oroville—Model dredging machine.
O. O. Olmstead, Santa Rosa—Model of steam cultivator.
L. L. Lewis, Sacramento—Scroll sawing machine.
Thompson & Upson, San Francisco—Patent asbestos steam covering.
Thompson & Upson, San Francisco—Patent asbestos steam packing.

CLASS II.

F. Cowan, San Francisco—Gopher trap.
Huntington, Hopkins & Company, Sacramento—Lawn mower.
Huntington, Hopkins & Company, Sacramento—Gopher trap.
Huntington, Hopkins & Company, Sacramento—Lawn sprinkler.

CLASS IV.

O. A. Davis, Sacramento—Bee hive.
L. H. Wooden, San Francisco—Model windmill.
Nash & Klees, Sacramento—Fanning mill.
Nash & Klees, Sacramento—Grain separator.
Nash & Klees, Sacramento—Hand corn planter.
Nash & Klees, Sacramento—Sack holder.
George Miller, Sacramento—Bee-hive.
A. M. Abbott, Stockton—Model of windmill.
W. W. Light, Sacramento—Bee-hive with bees.

CLASS V.

Huntington, Hopkins & Company, Sacramento—Display of haying and harvesting tools.
Huntington, Hopkins & Company, Sacramento—Sausage meat cutter and stuffer.
Kuntington, Hopkins & Company, Sacramento—Clothes wringer.
A. M. Abbott, Stockton—Model force pump.
Holbrook, Merrill & Company, Sacramento—Force and lift pumps.

CLASS VII.

J. Henschell, Sacramento—Two-horse top buggy.
J. Henschell, Sacramento—Single top buggy.
J. Henschell, Sacramento—Open buggy.
Geo. O. Bates, Sacramento—Top buggy.
Geo. O. Bates, Sacramento—Spring wagon.
J. A. Woods, Sacramento—Open buggy.
California Carriage Manufacturing Company, Sacramento—Four top buggies.
California Carriage Manufacturing Company, Sacramento—One-horse family carriage.
California Carriage Manufacturing Company, Sacramento—Two-horse family carriage.
California Carriage Manufacturing Company, Sacramento—Two-seated open carriage.
California Carriage Manufacturing Company, Sacramento—Six trotting wagons.
California Carriage Manufacturing Company, Sacramento—One sulky.
California Carriage Manufacturing Company, Sacramento—Carriage brake and carriage springs.
Huntington, Hopkins & Company, Sacramento—Carriage and wagon springs.
Huntington, Hopkins & Company, Sacramento—Carriage and wagon axles.

Huntington, Hopkins & Company, Sacramento—Carriage material and trimmings.
R. Dale, Sacramento—Children's cabs and carriages.
J. F. Hill, Sacramento—Heavy side-spring top buggy.
J. F. Hill, Sacramento—Heavy end-spring top buggy.
J. F. Hill, Sacramento—Light top buggy.
J. F. Hill, Sacramento—Open buggy.
J. F. Hill, Sacramento—Trotting wagon.
A. Meister, Sacramento—Top buggy.

THIRD DEPARTMENT.

CLASS II.

San Francisco Cordage Company, San Francisco—Display of cordage.
Huntington, Hopkins & Company, Sacramento—Display of rubber hose.
Huntington, Hopkins & Company, Sacramento—Display of leather belting.

FOURTH DEPARTMENT.

CLASS II.

Hobby & Burnett, Sacramento—Three white bronze monuments.
Hobby & Burnett, Sacramento—Two head markers.
Hobby & Burnett, Sacramento—Bronze century plant.
Hobby & Burnett, Sacramento—Bronze lamb.
Hobby & Burnett, Sacramento—Bronze emblems, door-plates, etc.
Holbrook, Merrill & Company, Sacramento—Copper kitchen utensils.
Holbrook, Merrill & Company, Sacramento—Tin kitchen utensils.
G. H. Swinerton, Sacramento—Twelve pieces copper work.
G. H. Swinerton, Sacramento—Copper kitchen utensils.
G. H. Swinerton, Sacramento—Tin kitchen utensils.
G. H. Swinerton, Sacramento—Six milk cans.
L. L. Lewis & Company, Sacramento—Kitchen utensils, brass and copper.
L. L. Lewis & Company, Sacramento—Kitchen utensils, tin.
Huntington, Hopkins & Company, Sacramento—Brass goods.
Huntington, Hopkins & Company, Sacramento—Axes.
Huntington, Hopkins & Company, Sacramento—Locks.
Huntington, Hopkins & Company, Sacramento—Door trimmings.
Huntington, Hopkins & Company, Sacramento—Mechanics' tools.
Huntington, Hopkins & Company, Sacramento—Mill saws.
Huntington, Hopkins & Company, Sacramento—Hand saws.
Huntington, Hopkins & Company, Sacramento—Window trimmings.
Huntington, Hopkins & Company, Sacramento—General hardware.
Huntington, Hopkins & Company, Sacramento—Pruning shears and saws.
Huntington, Hopkins & Company, Sacramento—Pruning knives.
Huntington, Hopkins & Company, Sacramento—Anti-friction metal.
Huntington, Hopkins & Company, Sacramento—Shot.
Bullard & Loftus, Sacramento—Brass work, California manufacture.
Bullard & Loftus, Sacramento—Hose couplings.
Giraud & Pitcher, Sacramento—Axes.
Giraud & Pitcher, Sacramento—Table cutlery.
Giraud & Pitcher, Sacramento—General hardware.
Giraud & Pitcher, Sacramento—Mechanics' tools.
Giraud & Pitcher, Sacramento—Pocket cutlery, hand saws, files, and shot.
L. L. Lewis & Company, Sacramento—Reflecting chandeliers, manufactured in Sacramento.

CLASS III.

Holbrook, Merrill & Company, Sacramento—Five cooking stoves, for wood.
Holbrook, Merrill & Company, Sacramento—Parlor stoves, for wood.
Holbrook, Merrill & Company, Sacramento—Three portable cooking ranges.
Holbrook, Merrill & Company, Sacramento—Granite and marbleized iron work, and hollow iron ware.
G. H. Swinerton, Sacramento—Cooking stove, for coal, "El Dorado."
G. H. Swinerton, Sacramento—Parlor stove, for coal.
G. H. Swinerton, Sacramento—Parlor stove, for wood.
G. H. Swinerton, Sacramento—Warming furnace.
G. H. Swinerton, Sacramento—Four portable ranges.
L. L. Lewis & Company, Sacramento—Three cooking stoves, for wood, two California manufacture.
L. L. Lewis & Company, Sacramento—Two cooking stoves, for coal.
L. L. Lewis & Company, Sacramento—One French cooking range, with boiler and broiler.
L. L. Lewis & Company, Sacramento—Four Richmond portable ranges.

L. L. Lewis & Company, Sacramento—Pair of ornamental iron vases.
L. L. Lewis & Company, Sacramento—An assortment of bathing-tubs.
E. B. Mott, Jr., Sacramento—Five portable ranges.
E. B. Mott, Jr., Sacramento—Parlor stoves.
E. B. Mott, Jr., Sacramento—Farmers cauldrons.
W. G. Williams, Sacramento—Pacific oil stoves.
W. G. Williams, Sacramento—Furniture.

CLASS IV.

R. E. Campbell, San Francisco—Duplex spring beds.
R. E. Campbell, San Francisco—Hospital bedsteads and beds.
Olds & Eaton, Sacramento—Spring beds.
Olds & Eaton, Sacramento—Skeleton lounge.
Olds & Eaton, Sacramento—Portable cot.
Olds & Eaton, Sacramento—Mattresses.
Clark, Rickoff & Company, San Francisco—Crandall's spring beds and mattresses.
R. E. Campbell, Agent for C. D. & E. Hinckley, San Francisco—Star Clipper spring bed.

CLASS V.

Nichols, Blum & Company, Sacramento—Cedar, pine, and oak wares.
Nichols, Blum & Company, Sacramento—Assortment of coopers' ware.
Nichols, Blum & Company, Sacramento—Assortment of wooden ware.
Foster & Billingsley, Sacramento—Broom-corn brooms and brushes.
C. Shaefer, Sacramento—Assortment of coopers' ware.

CLASS VII.

H. S. Crocker & Company, Sacramento—McKeone, Van Hagen & Company's Oriental detersive, laundry, and toilet soaps.
Pitcher & Palmer, Sacramento—Lubricating petroleum and axle grease.
Stewart & Taylor, Sacramento—Lubricating compound and axle grease.
Huntington, Hopkins & Company, Sacramento—Blacking and stove polish.
Thompson & Upson, San Francisco—H. W. Johns' asbestos material and patent asbestos paint.

CLASS VIII.

Gladding, McBien & Company, Lincoln—Vitrified sewer pipes.
Aitken & Luce, Sacramento—Samples of California marble.
George Miller, Sacramento—Samples of drain tile.
George Miller, Sacramento—Samples of artificial stone flooring.
George Miller, Sacramento—Flue pipe and statuary in stone.

CLASS IX.

Jacob Hoehn, Sacramento—Samples of California coals.
A. Spinks, Lincoln—Samples of California clay, sand, and coal.
D. DeBernardi, Sacramento—Globe of gold fish.
Mrs. H. Cronkite, Brighton—Parlor aquarium of natural fish.

FIFTH DEPARTMENT.

CLASS II.

J. E. Camp, Sacramento County—Bale of hops.
A. D. Miller, Sacramento County—Two bushels of white Chili wheat.
A. D. Miller, Sacramento County—Two bushels of white wild oats.
W. B. Gibson, Yolo County—Two bushels of club wheat.
O. A. Davis, Yolo County—Bunch of California tobacco.
P. H. Murphy, Sacramento County—Two bushels of barley.
F. P. Lowell, Sacramento County—Two bushels of rye.
R. J. Merkley, Sacramento County—Bale of sample hops.
E. Comstock, Yolo County—Bushel of alfalfa seed.
T. L. Chamberlin, Lincoln—Two bushels of Tappahannock wheat.
T. L. Chamberlin, Lincoln—Two bushels of white Chili wheat.
T. L. Chamberlin, Lincoln—Two bushels of Winter Clawson wheat.
T. L. Chamberlin, Lincoln—Two bushels of Proper wheat.
Manuel Manix, Newcastle—Two stalks of California raised tobacco (1876).
Manuel Manix, Newcastle—Two stalks of California raised tobacco (1877).
Manuel Manix, Newcastle—Forty pounds of California raised tobacco.
Ole O. Lovedale, Sacramento County—Sample bale of hops.
H. M. Van Namee, Sacramento County—Sample bale of hemp.

CLASS III.

F. Beersi & Company, Sacramento County—Half bushel of red potatoes.
F. Beersi & Company, Sacramento County—Half bushel of white potatoes.
F. Beersi & Company, Sacramento County—Half bushel any other variety of potatoes.
F. Beersi & Company, Sacramento County—Half bushel of sweet potatoes.
F. Beersi & Company, Sacramento County—Twelve parsnips.
F. Beersi & Company, Sacramento County—Twelve carrots.
F. Beersi & Company, Sacramento County—Six long blood beets.
F. Beersi & Company, Sacramento County—Six turnip beets.
F. Beersi & Company, Sacramento County—Peck of tomatoes.
F. Beersi & Company, Sacramento County—Six drumhead cabbages.
F. Beersi & Company, Sacramento County—Six heads of red Dutch cabbages.
F. Beersi & Company, Sacramento County—Six heads of any other variety of cabbages.
F. Beersi & Company, Sacramento County—Three heads of cauliflower.
F. Beersi & Company, Sacramento County—Three heads of broccoli.
F. Beersi & Company, Sacramento County—Six heads of lettuce.
F. Beersi & Company, Sacramento County—One-half peck of red onions.
F. Beersi & Company, Sacramento County—One-half peck of white onions.
F. Beersi & Company, Sacramento County—One-half peck of yellow onions.
F. Beersi & Company, Sacramento County—One-half peck of peppers for pickling.
F. Beersi & Company, Sacramento County—Twelve roots of salsify.
F. Beersi & Company, Sacramento County—Six stalks of celery.
F. Beersi & Company, Sacramento County—Six marrow squashes.
F. Beersi & Company, Sacramento County—Six Hubbard squashes.
F. Beersi & Company, Sacramento County—Six crooked-necked squashes.
F. Beersi & Company, Sacramento County—Largest sized pumpkin.
F. Beersi & Company, Sacramento County—Twelve ears of sweet corn, green.
F. Beersi & Company, Sacramento County—Three green fleshed muskmelons.
F. Beersi & Company, Sacramento County—Three yellow fleshed muskmelons.
F. Beersi & Company, Sacramento County—Six cucumbers.
F. Beersi & Company, Sacramento County—Half peck of Lima beans, in pod.
F. Beersi & Company, Sacramento County—Half peck of white beans, in pod.
F. Beersi & Company, Sacramento County—Half peck of kidney bush beans, in pod.
F. Beersi & Company, Sacramento County—Half peck of pole beans, in pod.
F. Beersi & Company, Sacramento County—Half peck of Gherkin cucumbers.
F. Beersi & Company, Sacramento County—Three purple egg plants.
O. O. Goodrich, Sacramento County—Half bushel of white potatoes.
O. O. Goodrich, Sacramento County—Great variety of Irish potatoes.
Jesse Aitken, Sacramento County—Half peck of white beans.
Jesse Aitken, Sacramento County—One-half peck of field peas.
Jesse Aitken, Sacramento County—Half peck of garden peas.
Jesse Aitken, Sacramento County—Thirteen varieties of peas.
Jesse Aitken, Sacramento County—Two varieties of castor oil beans.
B. W. Miller, Brighton—Half peck of field peas.
H. E. Miller, Brighton—Half peck of garden peas.
Hattie E. Sprague, Sacramento—Half bushel of Egyptian corn.
John Smith, Sacramento—Peck of tomatoes.
John Smith, Sacramento—Six sugar beets.
John Smith, Sacramento—Sack of sugar beet seed.
John Smith, Sacramento—Bundle of teazles.
D. DeBernardi, Sacramento—Large collection of vegetables.
D. DeBernardi, Sacramento—Grated horse-radish, in bottles.

CLASS IV.

Mrs. H. Cronkite, Brighton—Six varieties of ornamental foliage plants.
Mrs. H. Cronkite, Brighton—Two flowering begonias.
F. A. Ebel, Sacramento—Collection of ornamental foliage plants.
F. A. Ebel, Sacramento—Collection of new and rare plants.
F. A. Ebel, Sacramento—Collection of roses in bloom.
F. A. Ebel, Sacramento—Collection of fuchsias in bloom.
F. A. Ebel, Sacramento—Collection of bouquets and cut flowers.
F. A. Ebel, Sacramento—Collection of Australian plants.
F. A. Ebel, Sacramento—Collection of plants suitable for green-house.
F. A. Ebel, Sacramento—Conservatory and window culture.
F. A. Ebel, Sacramento—Collection of hanging baskets containing plants.
Mrs. E. H. Williams, Brighton—Collection of hanging baskets containing plants.

CLASS V.

Lowell Brothers, Yolo County—Ten cheeses, under one year old.
J. W. Mitchell, Pomponia Dairy, San Mateo County—Four cheeses, less than one year old.

CLASS VI.

Mrs. E. F. Aitken, Sacramento—Ten pounds of butter, in rolls.
J. H. Carroll, Sacramento—Samples of butter color, in glass.
Mrs. A. Cronkite, Brighton—Jar of June butter.
T. W. Johnson, Sacramento—Six two-pound rolls of butter.
Mrs. M. Sprague, Sacramento—Twenty-five pounds of butter, in jars, sixteen months old.
Mrs. M. Sprague, Sacramento—Twenty-five pounds of June butter.
Hattie E. Sprague, Florin—Twenty-five pounds of June butter, in jars, sixteen months old.
Mrs. E. F. Aitken, Sacramento—Domestic corn bread.
Mrs. E. F. Aitken, Sacramento—Domestic brown bread.
Miss Emma M. Hartwell (fourteen years of age), Sacramento—Domestic brown bread.
W. F. Peterson, Sacramento—Bakers' milk bread.
W. F. Peterson, Sacramento—Bakers' rye bread.
Mrs. W. V. Miller, Brighton—Domestic wheat bread.
Mrs. W. V. Miller, Brighton—Domestic raised biscuit.
Mrs. W. V. Miller, Brighton—Domestic soda biscuit.

SIXTH DEPARTMENT.

CLASS II.

O. A. Davis, Sacramento—Ten pounds of honey, in comb.
Hall, Luhrs & Company, Sacramento—Collection of Monticello pickles.

SEVENTH DEPARTMENT.

CLASS II.

J. C. Devine, Sacramento—Collection of sculpture.
J. C. Devine, Sacramento—Collection of marble works.
T. Griffith, Penryn—Collection of polished California granite.
Aitken & Luce, Sacramento—Collection of sculpture.
Aitken & Luce, Sacramento—Collection of marble work.
Frank N. Fish, Sacramento—Collection of sculpture.
Frank N. Fish, Sacramento—Collection of statuary and busts in plaster.
Frank N. Fish, Sacramento—Collection of marble work.

MISCELLANEOUS.

Hall, Luhrs & Company, Sacramento—Tobacco, "Charm of the West."
Hall, Luhrs & Company, Sacramento—Tea, "H., L. & Co."
H. S. Crocker & Company, Sacramento, for McKeone, Van Hagan & Company—"Griswold's starch."
George W. Safford, Sacramento—Paper hunting boat.
George Miller, Sacramento—Potato starch.
Huntington, Hopkins & Company, Sacramento—Patent coil springs for hanging window sashes.
Huntington, Hopkins & Company, Sacramento, for Lonegran & McBride—Collection of oil cups and lubricators.
Giraud & Pitcher, Sacramento—Collection of watchmakers' tools.
Giraud & Pitcher, Sacramento—Collection of assayers' goods.
Giraud & Pitcher, Sacramento—Collection of St. Louis shells for breech-loading guns.
I. Peter, Petaluma—Water filter and cooler.
Thompson & Upson, San Francisco—Collection of H. W. Johns' patent asbestos roofing.

ARTICLES EXHIBITED AT THE PAVILION—UPPER HALL.

SECOND DEPARTMENT.

George D. Allmond, Sacramento—White's sewing machines.
Massey & Taubenheimer, Sacramento—Grover & Baker's sewing machines.
Massey & Taubenheimer, Sacramento—Domestic sewing machines.
W. F. DeSanno, Sacramento—Two model steam engines.

CLASS V.

S. H. Davis, Sacramento—Two cases of assorted mechanics' tools.

THIRD DEPARTMENT.

CLASS I.

Charles H. Gilman, Sacramento—Fancy and dry goods.
Mrs. Wm. M. Lyon, Sacramento—One hearth rug.
A. Hamburger, Sacramento—Assortment of silk goods by one factory.
Mrs. Lucy A. Stevens, Elk Grove—Ten yards rag carpet.
A. Ackerman & Company, Sacramento—Assortment of fancy goods.
Miss Nellie Y. Brown (aged eight years), Sacramento—Embroidered pincushion and mat.
Locke & Lavenson, Sacramento—Assortment of rugs and carpets.
Locke & Lavenson, Sacramento—Fifteen yards woolen carpet.
Miss Jennie Blake (aged eight years), Sacramento—One pair of cornucopias.
Miss Jennie Blake (aged eight years), Sacramento—One pair of match boxes.
Miss Jennie Blake (aged eight years), Sacramento—One hairpin box.
Miss Jennie Blake (aged eight years), Sacramento—One card receiver.
E. Detrick & Company, San Francisco—Patent awnings.
E. Detrick & Company, San Francisco—Samples of material for grain bags.
E. Detrick & Company, San Francisco—Samples of material for flour bags.
E. Detrick & Company, San Francisco—Hydraulic hose.
E. Detrick & Company, San Francisco—Ore bags.
E. Detrick & Company, San Francisco—Patent tent.
R. Dale & Company, Sacramento—Assortment of silk goods by one factory.
R. Dale & Company, Sacramento—Stocking yarn.
R. Dale & Company, Sacramento—Naval and military goods.
R. Dale & Company, Sacramento—Assortment of fancy goods.
Henry Fisher, Sacramento—Eighteen jars of candy.
Henry Fisher, Sacramento—Two pans of rock candy.
Henry Fisher, Sacramento—One case of fancy candies.
Henry Fisher, Sacramento—One case of cakes.
Henry Fisher, Sacramento—One fancy gum-paste castle.
Capital Woolen Mills, Sacramento—Assortment of woolen goods by one factory.
Capital Woolen Mills, Sacramento—Ten pounds of assorted yarn.
Capital Woolen Mills, Sacramento—One Mackinaw blanket.
Capital Woolen Mills, Sacramento—Assortment of gents' clothing.
Capital Woolen Mills, Sacramento—Assortment of men's and boys' clothing.
N. Gilmore, El Dorado—Seven samples of Turkish mohair.
N. Gilmore, El Dorado—Seven samples of California mohair, showing process of manufacture.
N. Gilmore, El Dorado—Two pelts of Angora goats.
Mrs. W. P. Rutherford, Petaluma—Assortment of corsets and shoulder-braces.

JUVENILE DEPARTMENT.

Elizabeth Maist, Sacramento—Worsted embroidered pincushion.
Elizabeth Maist, Sacramento—Four pieces of crochet work.
Loulie Tyrrell, Sacramento—Seven pieces of worsted embroidery work.
Mamie L. White, Sacramento—One wax cross.
Emma M. Hartwell, Sacramento—One pair of card-board collar and cuff boxes.
Emma M. Hartwell, Sacramento—One moss boquet, needleworked picture.
Emma M. Hartwell, Sacramento—One set of card-board toilet mats.
Emma M. Hartwell, Sacramento—One set of worsted toilet mats.
Emma M. Hartwell, Sacramento—One beaded watch case.
Emma M. Hartwell, Sacramento—Two card-board match safes.
Emma M. Hartwell, Sacramento—Two jewel boxes.
Emma M. Hartwell, Sacramento—One braided dress.
Emma M. Hartwell, Sacramento—Two braided jewel baskets.
Emma M. Hartwell, Sacramento—One toilet set.
Emma M. Hartwell, Sacramento—Two card receivers.
Emma M. Hartwell, Sacramento—One pair of card-board brackets.
Emma M. Hartwell, Sacramento—One toilet cushion.
Emma M. Hartwell, Sacramento—Two fancy boxes.
Emma M. Hartwell, Sacramento—Two fancy penwipers.
Mamie Hartwell, Sacramento—Two card cases.
Mamie Hartwell, Sacramento—One cornucopia.
Flora H. Carroll, Sacramento—Embroidered pincushion.
Flora H. Carroll, Sacramento—One crochet scarf.
Flora H. Carroll, Sacramento—One toilet set.
Flora H. Carroll, Sacramento—One watch case.
Minnie P. Carroll, Sacramento—Three embroidered handkerchiefs.
Leila W. Carroll, Sacramento—One toilet set.
Master Warren Doan, Sacramento—Two crochet tidies.
Dora E. Doan, Sacramento—Two pillow cases.

Dora E. Doan, Sacramento—One patchwork quilt.
Nettie Belle Avery, Sacramento—Three tidies.
Nettie Belle Avery, Sacramento—Two card receivers.
Edward Fry, Twelve-mile House—One rag mat.
Alice Belle Lawson, Sacramento—Three worsted embroidered tidies.
Amy Hubert, Sacramento—One glove box.
Amy Hubert, Sacramento—Two initialed handkerchiefs.
Amy Hubert, Sacramento—One match safe.
Amy Hubert, Sacramento—Three worsted mats.
Amy Hubert, Sacramento—One toilet set.
Amy Hubert, Sacramento—One handkerchief box.
Amy Hubert, Sacramento—One pair of match boxes.
Amy Hubert, Sacramento—One embroidered sofa cushion.
Amy Hubert, Sacramento—One framed bouquet of worsted flowers.
Amy Hubert, Sacramento—One framed bouquet of wax flowers.
Amy Hubert, Sacramento—One case of pond lilies.
Amy Hubert, Sacramento—One wax cross.
Amy Hubert, Sacramento—One worsted letter motto, framed.
Mellie Wilcox, Sacramento—One silk embroidered motto.
Lillie Wilcox, Sacramento—Large collection of fancy articles and moss work.
Emma M. Hartwell, Sacramento—Five pieces of hand sewing.
Millie Robin, Sacramento—Two crochet mats.
Millie Robin, Sacramento—Pair of worsted slippers.
Millie Robin, Sacramento—One bead-work bracket.
May Carroll, Sacramento—Needle-work motto.
May Carroll, Sacramento—One needle book.
May Carroll, Sacramento—One watch pocket.
May Carroll, Sacramento—One match safe.
Hattie A. Knox, Sacramento—One worsted tidy.
Linda J. Farnsworth, Sacramento—One worsted wreath.
Linda J. Farnsworth, Sacramento—Two worsted cornucopias.
Linda J. Farnsworth, Sacramento—One card receiver.
Linda J. Farnsworth, Sacramento—One worsted match box.
Linda J. Farnsworth, Sacramento—One worsted crochet sacque.
Linda J. Farnsworth, Sacramento—One worsted watch slipper.
Rosa Clark, Sacramento—One sofa pillow.
Rosa Clark, Sacramento—One pincushion.
Rosa Clark, Sacramento—One beaded pincushion.
Pupils Sacramento Grammar School, Sacramento—Examination specimens, seven volumes.
Pupils Sacramento Grammar School, Sacramento—One volume specimens penmanship.
Amelia Behrens, Dixon—One framed bouquet of worsted flowers.
Frankie Chandler, Sacramento—One set of hazelnut toy furniture (cut with a penknife and saw).
Annie Brogan, Sacramento—One worsted-worked toilet set, three pieces.
Eva May Brogan, Sacramento—One worsted-worked parlor set, five pieces.
Eva May Brogan, Sacramento—One worsted-worked motto.
Eva May Brogan, Sacramento—One worsted-worked card receiver.
Eva May Brogan, Sacramento—Four worsted mats.
Louise E. Acock, Sacramento—One worsted tidy.
Emma N. Chapman, Sacramento—One perforated card-board cross.
Emma M. Hartwell, Sacramento—One handkerchief case.
Emma M. Hartwell, Sacramento—One silk bed quilt.
Eugene Wachhorst, Sacramento—Specimens of pencil drawings.
Lillie Wilcox, Sacramento—One pressed wreath of natural flowers.
Mercy Farnsworth, Sacramento—One card receiver.

CLASS II.

Guss Lavenson, Sacramento—Assortment of men's and boys' boots, shoes, gaiters, etc.
Guss Lavenson, Sacramento—Assortment of ladies' and girls' boots, shoes, gaiters, etc.
Thomas Harper, Sacramento—Assortment of men's and boys' gaiters.
Thomas Harper, Sacramento—Assortment of shoe lasts.
Thomas Harper, Sacramento—One pair of dress boots.
Thomas Harper, Sacramento—One pair of heavy boots.
Thomas Harper, Sacramento—One pair of gents' dress shoes.
Thomas Harper, Sacramento—One pair of Congress gaiters.
James Parsons, Sacramento—Gents' dress shoes.
James Parsons, Sacramento—One pair of Congress gaiters.
James Parsons, Sacramento—One pair of lady's slippers.
James Parsons, Sacramento—Ladies' gaiters.
James Parsons, Sacramento—One pair of lady's bootees.
James Parsons, Sacramento—Assortment of men's and boys' boots, shoes, and gaiters.
James Parsons, Sacramento—Assortment of ladies' and girls' boots, shoes, etc.
R. Stone & Co., Sacramento—Assortment of shoe lasts.

CLASS III.

Jennie McFaden, Sacramento—One worsted wreath.
Jennie McFaden, Sacramento—One hair wreath.
J. T. Clevinger, Sacramento—One worsted chair back.
J. T. Clevinger, Sacramento—One worsted Bible mat.
J. T. Clevinger, Sacramento—One worsted piano stool cover.
Miss Ella Tubbs, Sacramento—One tatting tidy.
Miss Ella Tubbs, Sacramento—One Java canvas tidy.
Miss Ella Tubbs, Sacramento—Two wadding figures.
Miss Ella Tubbs, Sacramento—One hairpin holder.
Miss Ella Tubbs, Sacramento—One canton flannel bird.
Miss Ella Tubbs, Sacramento—Two beaded sofas.
Miss Ella Tubbs, Sacramento—One jewel box.
Miss Ella Tubbs, Sacramento—One split basket.
Mrs. Federicka Maier, Sacramento—One perforated wreath.
Mrs. Joanna Whitlock, Sacramento—Ten pieces of Spanish needlework.
Miss Mollie Murphy & Company, Sacramento—One velvet bonnet.
Miss Mollie Murphy & Company, Sacramento—One silk bonnet.
Miss Mollie Murphy & Company, Sacramento—Assortment of artificial flowers.
Miss Mollie Murphy & Company, Sacramento—Assortment of millinery goods, etc.
C. H. Gillman, Sacramento—Embroidered table spread.
J. F. Slater, Sacramento—Assortment of men's hats and caps.
Mrs. Jennie Domingos, Sacramento—One cotton net spread.
Mrs. S. L. Richards, Sacramento—One embroidered ottoman cover.
Mrs. Wm. Lyon, Sacramento—One lamp-stand mat.
Mrs. Wm. Lyon, Sacramento—One ottoman cover.
Mrs. Wm. Lyon, Sacramento—Three pieces of silk embroidery.
Mrs. Wm. Lyon, Sacramento—One embroidered table cover.
Mrs. Wm. Lyon, Sacramento—Three pieces of chenille embroidery.
Mrs. Wm. Lyon, Sacramento—Seven pieces of ornamental needle work.
Mrs. Wm. Lyon, Sacramento—Specimens of wax flowers.
Mrs. Wm. Lyon, Sacramento—Specimens of wax fruit.
Mrs. Wm. Lyon, Sacramento—Variety of leaf work, flower work, grass, and straw work.
Mrs. R. O. Cravens, Sacramento—One crochet shawl.
Miss Nettie M. Montford, Sacramento—Two pieces of silk embroidery.
Miss Nettie M. Montford, Sacramento—One sofa cushion.
Miss Nettie M. Montford, Sacramento—Two embroidered handkerchiefs.
Miss Nettie M. Montford, Sacramento—Two worked handkerchiefs.
Miss Nettie M. Montford, Sacramento—Two pieces of embroidered linen.
Miss Nettie M. Montford, Sacramento—One specimen of braid work.
Mrs. J. W. Mandeville, Sacramento—One spatterwork tidy.
Mrs. Geo. F. Lyon, Sacramento—Five pieces of toilet set.
Mrs. Geo. F. Lyon, Sacramento—One worsted rug.
Mrs. Geo. F. Lyon, Sacramento—One dressing-case mat.
Mrs. G. L. Simmons, Sacramento—One patchwork mat.
Mrs. Windmiller, Folsom—One knitted tidy.
Mrs. J. H. Carroll, Sacramento—One moss album.
Mrs. J. H. Carroll, Sacramento—One toilet set.
Mrs. John Shellers, Sacramento—One vase of wax flowers.
Mrs. John Shellers, Sacramento—One vase of wax fruit.
J. Neubauer, Sacramento—Hair wigs, braids, and curls.
J. Neubauer, Sacramento—Hair jewelry.
J. Neubauer, Sacramento—Hair picture.
J. Neubauer, Sacramento—Machine for working hair.
Miss Fletcher, Sacramento—One framed piece of worsted flowers.
Mrs. C. Lages, Sacramento—Specimens of wax flowers, leaf work, and flower work.
Miss Hattie E. Sprague, Sacramento—One pair of crochet tidies.
Miss Lillie Wilcox, Sacramento—One embroidered stand cover.
Miss Lillie Wilcox, Sacramento—One decalcomanie air castle.
Miss Lillie Wilcox, Sacramento—One embroidered watch case.
Miss Lillie Wilcox, Sacramento—Splint frames.
Miss Lillie Wilcox, Sacramento—Splint basket and grasses.
Miss Lillie Wilcox, Sacramento—One lambrequin, in applique work.
Miss Lillie Wilcox, Sacramento—Decalcomanie picture frames.
Miss Lillie Wilcox, Sacramento—Watch receiver.
Miss Fannie Kohner, Sacramento—One embroidered picture.
Miss Mary Kohner, Sacramento—One embroidered vest and picture.
Mrs. Charles Ross, Sacramento—Collection of phantom leaves.
Mrs. Charles Ross, Sacramento—Sea mosses.
Mrs. A. Adams, Davisville—Two chemises.
Mrs. A. Adams, Davisville—Two skirts.
Mrs. A. Adams, Davisville—Four pillow cases.

Mrs. A. Adams, Davisville—One sheet.
Mrs. A. Adams, Davisville—One towel.
Mrs. A. Adams, Davisville—Trimmings for underskirt.
Mrs. A. Adams, Davisville—Spanish needlework (embroidered).
Mrs. M. D. Moore (aged seventy-one years), Davisville—One knitted shell quilt.
Miss Gussie Mier, Davisville—One framed wire worsted wreath.
Miss Gussie Mier, Davisville—One framed seed wreath.
Miss Gussie Mier, Davisville—One cow's horn cross (in glass case).
Miss Gussie Mier, Davisville—Bouquet of combed-out worsted.
W. F. Peterson, Sacramento—Assortment of confectionery.
W. F. Peterson, Sacramento—Candy vases and flowers.
W. F. Peterson, Sacramento—Many and various candy figures, etc.
Mrs. E. Howe, Sacramento—One tatting collar.
Miss M. Brothers, Sacramento—Assortment of millinery.
Miss M. Brothers, Sacramento—Assortment of artificial flowers.
Miss M. Brothers, Sacramento—One silk bonnet.
Miss M. Brothers, Sacramento—One velvet bonnet
Miss M. Brothers, Sacramento—One crape bonnet.
Mrs. Amelia Theiss (aged sixty-three years), Sacramento—One log cabin quilt.
Mrs. Amelia Thiess (aged sixty-three years), Sacramento—One patch-work quilt.
Mrs. S. P. Milligan, Sacramento—One tatting tidy.
Mrs. S. P. Milligan, Sacramento—One slipper case.
Mrs. S. P. Milligan, Sacramento—One pair of slippers.
Mrs. S. P. Milligan, Sacramento—One chemise band.
Mrs. S. P. Milligan, Sacramento—One towel rack.
Mrs. S. P. Milligan, Sacramento—One cigar holder.
Miss M. Brothers, Sacramento—Collection of ostrich and other feathers.
Mrs. Fannie Horn, Sandy Plain—Two bead chains.
Mrs. M. E. Rose, Sacramento—One pair of pillow shams.
Mrs. Applegate. Applegate, Placer County—One lounge cushion.
Mrs. Sarah H. Young, Black's Station, Yolo County—One quilt.
Mrs. Sarah H. Young, Black's Station, Yolo County—One patchwork quilt.
Mrs. Sarah H. Young, Black's Station, Yolo County—Two crochet tidies.
Mrs. J. P. Odbert, Sacramento—One silk quilt.
Mrs. J. P. Odbert, Sacramento—Two cotton patchwork quilts.
Mrs. J. P. Odbert, Sacramento—One worsted quilt.
Mrs. H. R. Close, Sacramento—One carriage afghan.
Mrs. S. McBrien, San Francisco—One crochet bed-spread.
Mrs. S. McBrien, San Francisco—Two pillow shams.
Mrs. S. McBrien, San Francisco—One sheet sham.
Mrs. Wm. M. Lyon, Sacramento—Specimens of shell work.
Mrs. Wm. M. Lyon, Sacramento—Embroidered chair back and seat.
Mrs. Wm. M. Lyon, Sacramento—One wax model of a human hand.
Mrs. C. E. Shirland, Auburn—Samples of mohair yarn.
Mrs. C. E. Shirland, Auburn—One pair of stockings made of mohair yarn.
R. Dale & Company, Sacramento—Specimens of shell work.
E. Detrick & Company, San Francisco—Specimens of overhand sewing.
Mrs. F. A. Burke, Sacramento—One ottoman.
Mrs. F. A. Burke, Sacramento—Three pieces of worsted knitting.
Angora Robe and Glove Company, San José—Assortment of leather gloves and mittens.
Miss D. H. Emmons, Sacramento—Assortment of millinery.
Miss D. H. Emmons, Sacramento—One velvet bonnet.
Miss D. H. Emmons, Sacramento—One silk bonnet.
Miss D. H. Emmons, Sacramento—Assortment of artificial flowers and feathers.
D. H. Quinn, Sacramento—Assortment of men's, boys', and children's hats and caps.
D. H. Quinn, Sacramento—One silk hat.
D. H. Quinn, Sacramento—One soft hat.
D. H. Quinn, Sacramento—An assortment of furs.
Mrs. F. Wachhorst, Sacramento—Wax flowers and bouquets.
Mrs. F. Wachhorst, Sacramento—Six pieces of wax statuary.
Miss Annie M. Gerber, Sacramento—Five stands wax flowers.
Miss Annie M. Gerber, Sacramento—Four pieces of wax statuary.
Mrs. R. Davis, Sacramento—Two ottomans.
Mrs. R. Davis, Sacramento—One embroidered chair.
Mrs. R. Davis, Sacramento—One sofa pillow.
Mrs. Edith Berkey, Sacramento—One ottoman and foot-rest.
Mrs. A. C. Freeman, Sacramento—One framed bouquet of worsted flowers.
Mrs. A. C. Freeman, Sacramento—Two Japanese table spreads.
Miss Annie M. Gerber, Sacramento—One knitted bed quilt.
Miss Annie M. Gerber, Sacramento—One knitted bed set (six pieces).
Mrs. Josephine Riley, Sacramento—One ornamental wax cross.
R. W. Jackson, San Francisco—Specimens of shell work—shell frame.

R. W. Jackson, San Francisco—Specimen of moss work.
J. F. Slater, Sacramento—One gent's soft hat.
J. F. Slater, Sacramento—One gent's silk hat.

FOURTH DEPARTMENT.

CLASS I.

George D. Allmond, Sacramento—One case of gloves and mittens.
Angora Robe and Glove Company, San José—Assortment of leather.
Angora Robe and Glove Company, San José—Carriage robes.
Angora Robe and Glove Company, San José—Whip lashes.
Angora Robe and Glove Company, San José—Parlor and buggy mats.
S. Roth, Sacramento—Set of double harness.
S. Roth, Sacramento—Set of single harness.
S. Roth, Sacramento—Assortment of Spanish saddles.
S. Roth, Sacramento—Assortment of saddles.
S. Roth, Sacramento—Assortment of bridles.
S. Roth, Sacramento—Assortment of saddle trees.
S. Roth, Sacramento—Assortment of saddlery hardware.
R. Stone & Company, Sacramento—Set of single harness.
R. Stone & Company, Sacramento—Set of double harness.
R. Stone & Company, Sacramento—Assortment of Mexican saddles.
R. Stone & Company, Sacramento—Saddles.
R. Stone & Company, Sacramento—Bridles.
R. Stone & Company, Sacramento—Saddle trees.
R. Stone & Company, Sacramento—Saddlery hardware.
R. Stone & Company, Sacramento—Leather.
R. Stone & Company, Sacramento—Lasts.
R. Stone & Company, Sacramento—Shoe findings.
R. Stone & Company, Sacramento—Horse collars.
J. S. Stoll, Sacramento—Set of double harness.
J. S. Stoll, Sacramento—Set of single harness.
J. S. Stoll, Sacramento—Four Mexican saddles.
J. S. Stoll, Sacramento—Nine saddles.
J. S. Stoll, Sacramento—Thirty bridles.

CLASS II.

A. Ackerman & Company, Sacramento—Assortment of silver-plated ware.
Bush Brothers, Sacramento—Assortment of chandeliers.
Bush Brothers, Sacramento—Assortment of burners.
Bush Brothers, Sacramento—Assortment of lamps (two dozen).
Mrs. F. A. Burke, Sacramento—One lustre tea-set.
Samuel Jelly, Sacramento—Assortment of silver ware.
Samuel Jelly, Sacramento—Assortment of gold pens.

CLASS III.

E. F. Scofield, Sacramento—Rustic flower stands.

CLASS IV.

Howard Bassett, Sacramento—Specimens of scroll sawing.
Joseph Curtis & Company, San José—Eight "Taylor & Farley's" parlor organs.
James G. Davis, Sacramento—Four parlor suites.
James G. Davis, Sacramento—Six patent rocking-chairs.
James G. Davis, Sacramento—Two bay window chairs.
James G. Davis, Sacramento—Two Spanish chairs.
James G. Davis, Sacramento—One office chair.
James G. Davis, Sacramento—One lounge.
John Breuner, Sacramento—One walnut bedroom set.
John Breuner, Sacramento—One walnut bedstead.
John Breuner, Sacramento—One dressing bureau.
John Breuner, Sacramento—One walnut frame gilded parlor set.
John Breuner, Sacramento—One walnut frame sofa.
John Breuner, Sacramento—One set walnut frame parlor chairs.
John Breuner, Sacramento—Two walnut frame easy chairs.
John Breuner, Sacramento—One lounge.
John Breuner, Sacramento—One walnut extension table (twelve feet).
John Breuner, Sacramento—One walnut frame office chair.
John Breuner, Sacramento—One center table.
John Breuner, Sacramento—One pair of gilt side tables.
John Breuner, Sacramento—One walnut writing-desk.

John Breuner, Sacramento—One walnut book-case.
John Breuner, Sacramento—One walnut wardrobe.
John Breuner, Sacramento—One rolling sick chair.
John Breuner, Sacramento—One walnut office desk.
John Breuner, Sacramento—One centennial rocking-chair.
John Breuner, Sacramento—Two fancy ladies' chairs.
John Breuner, Sacramento—One walnut platform rocking-chair.
John Breuner, Sacramento—One walnut piano stool.
John Breuner, Sacramento—One gilt walnut etageric.
John Breuner, Sacramento—One walnut sideboard.
John Breuner, Sacramento—One walnut hat-rack.
John Breuner, Sacramento—Two steamer chairs.
A. M. Goodnough, San Francisco—Three of Bradbury's pianos.
A. M. Goodnough, San Francisco—Five of Smith's American organs.
J. G. Davis, Sacramento—One ladies' work-box.
J. G. Davis, Sacramento—One ladies' table.
Capital Furniture Company, Sacramento—One walnut book-case.
Capital Furniture Company, Sacramento—One walnut center table.
Capital Furniture Company, Sacramento—One walnut set bedroom furniture.
Capital Furniture Company, Sacramento—Three cottage sets of bedroom furniture.
Sherman, Hyde & Company, San Francisco—Three pianos.
Sherman, Hyde & Company, San Francisco—Five organs.
W. B. Lawlor, Sacramento—Portable reading and writing-desk.
J. G. Davis, Sacramento—Assortment of upholstery.

CLASS V.

William Eberhardt, Sacramento—Collection of cedar ware.
William Eberhardt, Sacramento—Collection of pine ware.
William Eberhardt, Sacramento—Collection of oak ware.
William Eberhardt, Sacramento—Collection of turning lathe work.
William Eberhardt, Sacramento—Collection of osier willow work.
William Eberhardt, Sacramento—Collection of wooden ware.
William Eberhardt, Sacramento—Collection of wood carving.
William Eberhardt, Sacramento—Ivory spining-wheel.
William Eberhardt, Sacramento—Ivory billiard balls.
William Eberhardt, Sacramento—Tortoise shell and ivory combs.
William Eberhardt, Sacramento—Merschaum pipes.
William Eberhardt, Sacramento—Amber mouth-pieces.
William Eberhardt, Sacramento—Engraved ivory paper knives.
William Eberhardt, Sacramento—Two corner brackets.
William Eberhardt, Sacramento—Napkin rings.
William Eberhardt, Sacramento—Shot and powder flasks.
William Eberhardt, Sacramento—Damascus steel breech-loading guns.
William Eberhardt, Sacramento—Various kinds of walking canes.

CLASS VI.

H C. Kirk & Company, Sacramento—Dentists and surgeons instruments.
Mrs. H. E. Israel, Stockton—Washing calenders.
Dr. Geo. A. Stephenson, Sacramento—Artificial legs.
Dr. Geo. A. Stephenson, Sacramento—Trusses.
Dr. Geo. A. Stephenson, Sacramento—Supporters.
Dr. Geo. A. Stephenson, Sacramento—Extensors for club feet.
Dr. Geo. A. Stephenson, Sacramento—Instruments for curved spine.
A. Flohr, Sacramento—One California made double-barreled shotgun.
A. Flohr, Sacramento—One California made sporting rifle.
A. Flohr, Sacramento—One California made breech-loading shotgun.
A. Flohr, Sacramento—One California made game-bag.
A. Flohr, Sacramento—An assortment of fire-arms.
Henry Eckhardt, Sacramento—California made sporting rifle.
Henry Eckhardt, Sacramento—An assortment of fire-arms.
W. B. Lawlor, Sacramento—Patent electric pens.
J. Rhoades, Sacramento—Powlett's atmospheric copying press.
J. Rhoades, Sacramento—Hand rubber stamps.
J. Rhoades, Sacramento—Centennial flat-iron heater.
R. W. Jackson, San Francisco—Abalone shell case eight-day clock.
Mrs. W. P. Rutherford, Petaluma—Abdominal supporters.
William Eberhardt, Sacramento—Damascus steel breech-loading gun.
William Eberhardt, Sacramento—Shot and powder flasks.

CLASS VII.

M. S. Hammer, Sacramento—Syrup of glycerole of tar.

Bowen Brothers, San Francisco—Yeast powders.
A. D. Boyer, Sacramento—Insect destroying powder.
F. M. Leet & Company, Sacramento—California yeast cakes.
H. C. Kirk & Company, Sacramento—Assortment of drugs.
H. G. Boisselier, Stockton—Yeast powder.
J. G. Sichel, Sacramento—Life tonic stomach bitters.
J. G. Sichel, Sacramento—Essence of peppermint and ginger.
J. G. Sichel, Sacramento—Flavoring extracts of lemon and vanilla.
J. G. Sichel, Sacramento—Liquid blueing.
Pacific Rubber Paint Company, San Francisco—Assortment of mixed paints and samples.
L. M. Slocum, Sacramento—Liquid court-plaster or artificial skin.
Smith & Stone, San Diego—Samples of salt.
California Paint Company, San Francisco—Samples of Averill's mixed paints.
Powers & Henderson, Sacramento—Samples of Dr. Mott's wild cherry tonic.
H. A. Chalvin, San Francisco—Samples of the great American cordial.

CLASS IX.

Mrs. E. F. Scofield, Sacramento—Natural and colored native grasses.
R. E. Goggins, Sacramento—Five glass shades of birds.
Joseph Dunkerly, Sacramento—Forty-four glass cases of African and Indian Ocean birds.
Joseph Dunkerly, Sacramento—Eighteen glass cases of California, New Guinea, and Australian birds.
Joseph Dunkerly, Sacramento—Four hundred specimens of bird skins.
Joseph Dunkerly, Sacramento—One large glass case of Eastern birds.
Joseph Dunkerly, Sacramento—Two large glass cases illustrating the ornithology of California.
Joseph Dunkerly, Sacramento—One glass case of day flies.
Joseph Dunkerly, Sacramento—One glass case of various flies.
Joseph Dunkerly, Sacramento—Two glass cases of hard-winged insects.

FIFTH DEPARTMENT.

CLASS IV.

Mrs. E. Hart, Florin—Fuchsias in bloom.
Mrs. E. Hart, Florin—Bouquets of natural flowers.
Mrs. E. Hart, Florin—Cut natural flowers.

CLASS VI.

Mrs. E. S. Hart, Florin—One loaf of wheat bread.
Mrs. E. S. Hart, Florin—One card of biscuits.
Miss Dora Doan, Sacramento—Three loaves of wheat bread.
Miss Dora Doan, Sacramento—One pan of biscuits.
Mrs. E. S. Hart, Florin—Assortment domestic rye bread and soda biscuits.
C. W. Rapp, Sacramento—Pyramid of avena and oaten grits.
C. W. Rapp, Sacramento—Assortment of teas.
Taylor & McDowell, Sacramento—Sample cases of canned salmon.

SIXTH DEPARTMENT.

CLASS I.

O. O. Goodrich, Sacramento—Twenty-one varieties of apples.
O. O. Goodrich, Sacramento—Nine varieties of pears.
O. O. Goodrich, Sacramento—Assortment of quinces.
J. T. Wright, Patterson's Station—Two varieties of peaches.
E. L. Aitken, Sacramento—One variety of peaches.
Thomas K. Stewart, Sacramento—Four varieties of apples.
Thomas K. Stewart, Sacramento—Nine varieties of pears.
Thomas K. Stewart, Sacramento—One variety of oranges.
Thomas K. Stewart, Sacramento—One variety of olives.
Thomas K. Stewart, Sacramento—One variety of figs.
Thomas K. Stewart, Sacramento—One variety of lemons.
L. S. Graham, Sacramento—Five varieties of apples.
L. S. Graham, Sacramento—Six varieties of peaches.
L. S. Graham, Sacramento—Three varities of grapes.
L. S. Graham, Sacramento—Three varieties of pears.
L. S. Graham, Sacramento—One variety of plums.
L. S. Graham, Sacramento—One variety of quinces.
James Holland, Sacramento—Twenty-one varieties of apples.
James Holland, Sacramento—Twenty-one varieties of pears.
James Holland, Sacramento—Three varieties of quinces.

James Holland, Sacramento—Three varieties of almonds.
James Holland, Sacramento—One variety of figs.
F. A. Ebel, Sacramento—Six varieties of apples.
F. A. Ebel, Sacramento—Six varieties of pears.
F. A. Ebel, Sacramento—Assortment of varieties of plums and green figs.
D. DeBernardi, Sacramento—Twelve varieties of apples.
D. DeBernardi, Sacramento—Twelve varieties of pears.
D. DeBernardi, Sacramento—Five varieties of plums.
D. DeBernardi, Sacramento—Three varieties of quinces.
W. V. Miller, Brighton—Three varieties of apples.
W. V. Miller, Brighton—Three varieties of pears.
E. M. Smith, Coloma—Thirty-two varieties of peaches.
E. M. Smith, Coloma—Fourteen varieties of apples.
E. M. Smith, Coloma—Twelve varieties of pears.
E. M. Smith, Coloma—Seven varieties of plums.
E. M. Smith, Coloma—Four varieties of oranges.
E. M. Smith, Coloma—Two varieties of figs.
E. M. Smith, Coloma—One variety of Japanese persimmons.
E. M. Smith, Coloma—One variety of pomegranates.
E. M. Smith, Coloma—One variety of strawberries.
E. M. Smith, Coloma—One variety of quinces.
E. M. Smith, Coloma—Assortment of apples, peaches, pears, and plums.
Charles A. Bamber, Placerville—Twenty-four varieties of peaches.
Charles A. Bamber, Placerville—Ten varieties of plums.
Charles A. Bamber, Placerville—Assortment of apples and green figs.
Robert Williamson, Sacramento—Twenty-one varieties of apples.
Robert Williamson, Sacramento—Twenty-one varieties of pears.
Robert Williamson, Sacramento—Seven varieties of peaches.
Robert Williamson, Sacramento—Six varieties of plums.
Robert Williamson, Sacramento—Green figs.
Robert Williamson, Sacramento—Assortment of tropical fruit.
Robert Williamson, Sacramento—Oranges.
Robert Williamson, Sacramento—Lemons.
Robert Williamson, Sacramento—Sixteen varieties of seedling fruit.
Robert Williamson, Sacramento—Half peck of English walnuts.
Robert Williamson, Sacramento—Half peck of soft-shelled almonds.
Robert Williamson, Sacramento—Half peck of peanuts,
Robert Williamson, Sacramento—Sample of Italian chesnuts.
Robert Williamson, Sacramento—Sample of citron bananas.
Robert Williamson, Sacramento—One pommellar, or Chinese orange.
Robert Williamson, Sacramento—Four varieties of quinces.
F. A. Ebel, Sacramento—Assortment of tropical fruits.
Mrs. Wm. M. Lyon, Sacramento—Variety of oranges.
Mrs. Wm. M. Lyon, Sacramento—Variety of pomegranates.
W. S. Manlove, Brighton—Twelve varieties of apples.
W. S. Manlove, Brighton—Nine varieties of apples.
W. S. Manlove, Brighton—Green figs (black and white).
J. Rutter, Florin—Assortment of oranges.
J. Rutter, Florin—Assortment of green figs.

CLASS II.

Mrs. E. F. Aitken, Sacramento—Six jars of blackberry jam.
O. O. Goodrich, Sacramento—Ten pounds of honey.
Mrs. W. V. Miller, Brighton—Raspberry jelly.
Mrs. W. V. Miller, Brighton—Blackberry jelly.
Mrs. W. V. Miller, Brighton—Red currant jelly.
Mrs. W. V. Miller, Brighton—Strawberry jelly.
Mrs. W. V. Miller, Brighton—Quince jelly.
Mrs. W. V. Miller, Brighton—Raspberry jam.
Mrs. W. V. Miller, Brighton—Blackberry jam.
Mrs. E. S. Hart, Florin—Three jars of brandy fruit.
Mrs. E. S. Hart, Florin—One jar of preserved pears.
Mrs. E. S. Hart, Florin—One jar of preserved peaches.
Mrs. E. S. Hart, Florin—Seven jars of blackberry jelly.
Mrs. E. S. Hart, Florin—Eleven jars of grape jelly.
Mrs. E. S. Hart, Florin—Nine jars of quince jelly.
Rev. Henry Loomis, San Rafael—Three jars preserved Japanese persimmons.
Mrs. E. S. Hart, Florin—Nine jars of strawberry jelly.
Mrs. E. S. Hart, Florin—Five jars of apple jelly.
Mrs. E. S. Hart, Florin—Two jars of strawberry preserves.
Mrs. E. S. Hart, Florin—Two jars of pickled grapes
Mrs. E. S. Hart, Florin—One jar of pickled tomatoes.

Mrs. E. S. Hart, Florin—One jar of pickled figs.
Mrs. E. S. Hart, Florin—One jar of pickled pears.
Mrs. E. S. Hart, Florin—Two jars of preserved tomatoes.
Mrs. E. S. Hart, Florin—One jar of preserved blackberries.
Mrs. H. Cronkite, Brighton—Thirty-three varieties of pickles.
Mrs. H. Cronkite, Brighton—Fifty-three varieties of fresh canned fruit.
Mrs. H. Cronkite, Brighton—Six jars of blackberry jam.
Mrs. H. Cronkite, Brighton—Eight jars of black raspberry jam.
Mrs. H. Cronkite, Brighton—Seven jars of strawberry jam.
Mrs. H. Cronkite, Brighton—Six jars of quince jelly.
Mrs. H. Cronkite, Brighton—Eleven jars of apple jelly.
Mrs. H. Cronkite, Brighton—Three jars of brandy peaches.
Mrs. H. Cronkite, Brighton—Four jars of red raspberry jam.
Mrs. H. Cronkite, Brighton—Six jars of blackberry jelly.
Mrs. H. Cronkite, Brighton—Twelve jars of strawberry jelly.
Mrs. H. Cronkite, Brighton—Five jars of red raspberry jelly.
William Davis, Sacramento—Watermelon preserves.

CLASS III.

F. P. Lowell, Sacramento—Half peck of soft-shelled almonds.
A. D. Miller, Brighton—Half peck of soft-shelled almonds.
A. D. Miller, Brighton—Half peck of paper-shelled almonds.
W. S. Manlove, Brighton—Half peck of soft-shelled almonds.
W. S. Manlove, Brighton—Half peck of paper-shelled almonds.
Mrs. E. F. Aitken, Sacramento—Twenty-five pounds of dried apples.
Mrs. E. F. Aitken, Sacramento—Twenty-five pounds of dried peaches.
Mrs. E. F. Aitken, Sacramento—Twenty-five pounds of dried plums.
Mrs. E. F. Aitken, Sacramento—Twenty-five pounds of dried nectarines.
Mrs. E. F. Aitken, Sacramento—Assortment of dried berries.
Mrs. E. F. Aitken, Sacramento—Assortment of English walnuts.
Mrs. E. F. Aitken, Sacramento—Assortment of soft-shelled almonds.
Mrs. E. F. Aitken, Sacramento—Assortment of peanuts.
W. V. Miller, Brighton—Twenty-five pounds of dried pears.
W. V. Miller, Brighton—Twenty-five pounds of dried peaches.
W. V. Miller, Brighton—Twenty-five pounds of figs.
W. V. Miller, Brighton—Twelve varieties of dried berries.
R. B. Blowers, Woodland—Twenty-five pounds of dried apples.
R. B. Blowers, Woodland—Twenty-five pounds of dried pears.
R. B. Blowers, Woodland—Twenty-five pounds of dried peaches.
R. B. Blowers, Woodland—Ten pounds of dried figs.
Hattie E. Sprague, Sacramento—Twenty-five pounds of dried pears.
C. A. Bamber, Placerville—Ten pounds of dried figs.
W. S. Manlove, Brighton—Ten pounds of dried figs (white).
W. S. Manlove, Brighton—Ten pounds of dried figs (black).
Robert Williamson, Sacramento—Three varieties of table grapes.
R. B. Blowers, Woodland—Twenty-one varieties of table grapes.
R. B. Blowers, Woodland—Twenty-four varieties of wine grapes.
R. B. Blowers, Woodland—Assortment of raisin grapes.
D. DeBernardi, Sacramento—Three varieties of table grapes.
F. A. Ebel, Sacramento—Varieties of raisin grapes.
Mrs. W. V. Miller, Brighton—Five varieties of table grapes.
Brighton Distillery Company, Brighton—Four bottles of brandy.
Robert Chalmers, Coloma—Six bottles of grape brandy.
Robert Chalmers, Coloma—Eighteen bottles of dry white wine.
Robert Chalmers, Coloma—Two bottles of dry red wine.
Robert Chalmers, Coloma—Six bottles of sweet wines.
Robert Chalmers, Coloma—Two bottles of blackberry wine.
Robert Chalmers, Coloma—Two bottles of blackberry cordial.
Robert Chalmers, Coloma—Two bottles of Catawba wine bitters.
Robert Chalmers, Coloma—Four bottles of sherry wine.
Robert Chalmers, Coloma—Six bottles of port wine.
Mrs. H. Cronkite, Brighton—Three bottles of white wine.
Mrs. H. Cronkite, Brighton—Three bottles of red wine.
Mrs. H. Cronkite, Brighton—One bottle of California port wine.
Mrs. H. Cronkite, Brighton—One bottle of blackberry wine.
Mrs. W. V. Miller, Brighton—Two bottles of blackberry wine.
W. S. Manlove, Brighton—Three varieties of wine grapes.
W. S. Manlove, Brighton—Three varieties of table grapes.
E. M. Smith, Coloma—Twenty-one varieties of table grapes.
J. Rutter, Florin—Twenty-one varieties of table grapes.
J. Rutter, Florin—Twenty-four varieties of wine grapes.
J. Rutter, Florin—Varieties of raisin grapes.

MISCELLANEOUS.

W. S. Manlove, Brighton—One gallon of grape syrup.
Mrs. H. Cronkite, Brighton—Two bottles of elderberry wine.

SEVENTH DEPARTMENT.

CLASS I.

S. A. Wolfe, Sacramento—Collection of photographs.
W. R. Freeman, Sacramento—Seven portraits, in oil.
W. R. Freeman, Sacramento—Seven landscapes, in oil.
W. R. Freeman, Sacramento—One ideal head, in oil.
W. R. Freeman, Sacramento—Two figure paintings, in oil.
Benoni Irwin, San Francisco—Three portraits, in oil.
Hamilton & Jackson, San Francisco—Nine portraits, colored and crayon.
Mrs. J. W. Mandeville, Sacramento—Silver medallion of Christ.
John A. Todd, Sacramento—Collection of photographs.
O. M. Gove, Sacramento—Six cases of ferro-photographs.
Mrs. J. H. Lewis, Sacramento—Three landscapes, in oil.
Mrs. J. H. Lewis, Sacramento—One landscape, water color.
Mrs. J. H. Lewis, Sacramento—One flower painting, water color.
Mrs. J. H. Lewis, Sacramento—Two fruit paintings, in oil.
Mrs. J. H. Lewis, Sacramento—Two figure paintings, in oil.
Pupils of Miss Kate Turner, Sacramento—Two chalk drawings.
Mrs. J. Craig, San Francisco—Ten landscape paintings.
Miss Kate Allmond, Sacramento—Twelve frames of colored photographs.
A. P. Hill, San José—Twelve paintings of animals, in oil.
A. P. Hill, San José—One landscape, in oil.
L. O. Lussier, San José—Six portraits, in oil.
Norton Bush, San Francisco—Twenty-five oil paintings.
A. J. Childs, for A. Hossack, Oakland—One portrait, in oil.
A. J. Childs, for A. Hossack, Oakland—Two crayon portraits.
Miss M. Brothers, Sacramento—Portrait, in oil.
Miss M. Brothers, Sacramento—Three landscapes.
Miss M. Brothers, Sacramento—One figure, in oil.
Miss M. Brothers, Sacramento—One crayon picture.
Mrs. W. A. Butterfield, Sacramento—Two portraits, in oil.
Mrs. W. A. Butterfield, Sacramento—Four landscapes, in oil.
Mrs. W. A. Butterfield, Sacramento—One painting of animals.
Mrs. W. A. Butterfield, Sacramento—Two paintings of flowers.
Burns Brothers, Sacramento—Specimen photographic painting.
Gertrude Fisher, New York—Landscape, in oil.
Gertrude Fisher, New York—Three figure paintings.
Rev. Henry Loomis, San Rafael—Two paintings of fruit.
Otto Schrader, San Francisco—Paintings, in oil.
Otto Schrader, San Francisco—Sketches in fresco.
Hartwig Borneman, Sacramento—Portraits, in water colors.
Hartwig Borneman, Sacramento—Crayon pictures.
Mrs. E. B. Crocker, Sacramento—Five oil paintings.
Mrs. E. B. Crocker, Sacramento—Eighteen water colored paintings.
Mrs. E. B. Crocker, Sacramento—Mosaic St. Paul's Church, St. Petersburg.
Mrs. E. B. Crocker, Sacramento—One case of nineteen pieces ivory carving.
Miss Agnes B. Rutter, Sacramento—Portrait, in oil.
Miss Agnes B. Rutter, Sacramento—Three landscapes.
Miss Agnes B. Rutter, Sacramento—One animal painting, in oil.
Miss Agnes B. Rutter, Sacramento—Flowers (panel).
E. J. Muybridge, San Francisco—Photograph of a horse trotting.
Mrs. F. A. Burke, Sacramento—Two water color paintings.
Mrs. Kate Turner, Sacramento—Two chalk drawings.
Mrs. Kate Turner, Sacramento—Two water color paintings.
L. O. Lussier, Oakland—Seven portraits, in oil.
Mrs. J. D. Treat, San Francisco—Transferred photographs, in oil.
Mrs. F. G. Waterhouse, Sacramento—Two oil paintings.
Mrs. F. G. Waterhouse, Sacramento—Thirty flat studies and drawings from casts.

CLASS III.

M. C. Loomis, Sacramento—Nine oil paintings.
Miss Mary E. Keithly, Sacramento—Two drawings.
Miss Sarah J. Duffy, Sacramento—Four water color drawings.
Miss Kate Duffy, Sacramento—Three water color drawings.
Miss Fannie McClatchy, Sacramento—Painting in sepia.

Miss Fannie Tyrrell, Sacramento—Painting in sepia.
Pupils of Mrs. E. C. Bingay, Sacramento—Eighteen specimens of drawing.
Pupils of Mrs. E. C. Bingay, Sacramento—Specimens of industrial art drawing.
Miss Agnes E. Rutter, Sacramento—Two landscapes, in oil.
G. H. Redding, San Francisco—Four landscapes, in oil.
Primary pupils of Mrs. E. M. Seymour, Sacramento—Specimens of industrial art drawing.

CLASS IV.

Henry Eckhardt, Sacramento—Specimens of engraving on steel.

MISCELLANEOUS.

Sacramento Business College—Eleven specimens of penmanship.
Sacramento Business College—One specimen of flourishing with a pen.

FOR SPECIAL PREMIUM.

George E. Odbert, Sacramento—Specimens of penmanship.
H. A. Bostwick, Sacramento—Specimens of penmanship.
Charles Thompson, Sacramento—Specimens of penmanship.

PREMIUMS AWARDED—1877.

FIRST DEPARTMENT.

Live Stock.	Owner's Name.	Residence.	Name of Animal.	Premium.
CLASS I.—HORSES.				
Best thoroughbred stallion, four years old and over	Theo. Winters	Yolo County	Norfolk	$60 00
Best thoroughbred stallion, three years old	Theo. Winters	Yolo County	Chesnesix	40 00
Best thoroughbred stallion, two years old	Theo. Winters	Yolo County	Spring Box	30 00
Best thoroughbred stallion, under one year old	Theo. Winters	Yolo County	O'Brein	15 00
Best thoroughbred mare, four years old and over, with colt	Theo. Winters	Yolo County	Hennie Farrow	50 00
Best thoroughbred mare, four years old	Theo. Winters	Yolo County	Ballerena	40 00
Best thoroughbred mare, two years old	Henry Walsh	San Francisco	Carrie C.	20 00
Best thoroughbred mare, one year old	Theo. Winters	Yolo County	Filly, by Norfolk	15 00
Best thoroughbred mare, under one year old	J. A. Cardinell	San Francisco	Tillie C.	10 00
FAMILIES.				
Best thoroughbred sire, with not less than ten of his colts, all thoroughbred	Theo. Winters	Yolo County	Norfolk and ten of his colts	125 00
Best stallion, other than thoroughbred, with not less than ten of his colts	W. O. Jennings	Black's Sta., Yolo Co.	Dave and ten of his colts	75 00
Best dam, other than thoroughbred, with not less than three of her colts	J. T. Hadley	Yolo County	Fan and colts	50 00
CLASS II.—GRADED HORSES.				
Best stallion, four years old and over	Robert T. Worden	Marin County	Eclipse	40 00
Best stallion, two years old	A. L. Chapman	Suisun	Jack Downing, by Norfolk	25 00
Best stallion, under one year old	Ben. E. Harris	San Francisco	Prince	10 00
Best mare, four years old and over	A. L. Chapman	Suisun	Lady Norfolk	40 00
Best mare, four years old and over, with colt	Ben. E. Harris	San Francisco	Lady Silver and colt	40 00
Best mare, two years old	J. P. Odbert	Sacramento	Pet	15 00
CLASS III.—HORSES OF ALL WORK.				
Best stallion, four years old and over	L. U. Shippee	Stockton	Henry Clay	40 00
Best stallion, three years old	J. R. Meyers	San Joaquin County	Frank	30 00
Best stallion, two years old	A. Tapper	Sacramento County	Pete	20 00
Best stallion, one year old	Fred. Bable	Yolo County	Fred. Bable	15 00

Best mare, four years old and over, with colt	James L. Clark	Sacramento County	Belle Clark and colt	40 00
Best mare, four years old and over	Fred. Bable	Yolo County	Rosa Bable	30 00
Best mare, three years old	James T. Hadley	Yolo County	Lucy	20 00
Best mare, two years old	J. W. Richmond	Sacramento	Nettie	15 00
Best mare, one year old	John Kennedy	Sacramento	Darling Katie	10 00
CLASS IV.—DRAFT HORSES.				
Best stallion, four years old and over	H. Meacham	Petaluma	Duke de Chartres	40 00
Best stallion, three years old	J. Wooden & Co.	Petaluma	Enterprise	30 00
Best stallion, two years old	J. Wooden & Co.	Petaluma	Tornado	20 00
Best stallion, one year old	J. Wooden & Co.	Petaluma	Duke 2d	15 00
Best mare, four years old and over, with colt	R. J. Merkley	Sacramento	Nellie and colt	40 00
Best mare, four years old and over	Chris. Thodt	Dixon	Lucy	35 00
Best mare, three years old	Carl Halverson	Sacramento County	Queen	25 00
Best mare, two years old	E. Comstock	Yolo County	Maud	20 00
CLASS V.—ROADSTERS.				
Best stallion, four years old and over	James Gannon	San Francisco	Sam Purdy	40 00
Best stallion, three years old	H. A. Mayhew	Oakland	Pascora Hayward	30 00
Best stallion, two years old	D. M. Reavis	Chico	Heitzic	25 00
Best gelding, four years old and over	L. H. Titus	Los Angeles	Bullet	30 00
Best mare, four years old and over	William Hawkins	Sacramento	Susie Brown	40 00
Best mare, two years old	L. J. Rose	Los Angeles	A. Rose	20 00
CLASS VII.—DOUBLE TEAM ROADSTERS.				
Best double team roadsters, owned and used as such by one person	James R. Madden	Dixon	Flying Nellie and Limber George	40 00
CLASS VIII.—SADDLE HORSES.				
Best saddle horse, mare, or gelding	E. A. Bridgford	Colusa	Monroe Belle	20 00
Best gelding for saddle and harness	A. D. Miller	Brighton	Red Bird	25 00
CLASS IX.—COLTS.				
Best colt, other than thoroughbred or graded				
Best one year old horse colt	James H. Dubose	Yolo County	N. Green Curtis	25 00
Best suckling horse colt	Ben. E. Harris	San Francisco	Arthur H.	15 00
Best one year old mare colt	Carl Halverson	Sacramento County	Lady Grant	15 00
Best suckling mare colt	R. J. Merkley	Sacramento	Maggie	10 00
Best yearling colt	J. Blythe	Solano County	Don Pedro	Sp. pr. 15 00
CLASS X.—SWEEPSTAKES.				
Best stallion, of any age	Theo. Winters	Yolo County	Norfolk	75 00
Second best stallion, of any age	L. U. Shippee	Stockton	Henry Clay	40 00

LIVE STOCK.	Owner's Name.	Residence.	Name of Animal.	Premium.
Best mare, of any age	A. L. Chapman	Suisun	Lady Norfolk	$75 00
Second best mare, of any age	R. J. Merkley	Sacramento	Nellie	35 00
Best jack, four years old and over	W. O. Jennings	Yolo County	Honest John	40 00
Best span of mules, of any age	W. O. Jennings	Yolo County	Jennie and Julia	25 00
CATTLE—CLASS I.—DURHAM CATTLE.				
Best bull, four years old and over	D. M. Reavis	Chico	Stonewall	50 00
Second best bull, four years old and over	J. B. Redmond	Marin County	Lalla Rookh	25 00
Best bull, three years old	Coleman Younger	San José	Red Thorndale	40 00
Second best bull, three years old	I. N. Hoag	Yolo County	Yolo Chief	20 00
Best bull, two years old	Coleman Younger	San José	Airdrie Thorndale	20 00
Second best bull, two years old	D. M. Reavis	Chico	2d Duke of Chico	10 00
Best bull, one year old	D. M. Reavis	Chico	6th Duke of Chico	15 00
Second best bull, one year old	E. Comstock	Yolo County	Hayes	7 50
Best bull calf	D. M. Reavis	Chico	8th Duke of Chico	10 00
Second best bull calf	R. J. Merkley	Sacramento	Don Cæsar	5 00
Best cow, four years old and over	Coleman Younger	San José	Sprightly	40 00
Best cow and her calf (calf under one year)	A. J. Scoggins	Tulare	Jenny McClene	40 00
Second best cow, four years old and over	A. J. Scoggins	Tulare	Nellie Bly	20 00
Best cow, three years old	Coleman Younger	San José	Rosa Nell	30 00
Second best cow, three years old	J. B. Redmond	Marin County	Bertha	15 00
Best cow, two years old	Coleman Younger	San José	1st Golden Gate	20 00
Second best cow, two years old	Coleman Younger	San José	Rosa Nell	10 00
Best cow, one year old	Coleman Younger	San José	2d Rose of Forest Home	15 00
Second best cow, one year old	J. B. Redmond	Marin County	True Heart 37th	7 50
Best heifer calf	D. M. Reavis	Chico	10th Belle of Chico	10 00
Second best heifer calf	A. J. Scoggins	Tulare	Daisy	5 00
ALDERNEY AND JERSEY, IN ONE CLASS.				
Best bull, four years old and over	Jas. McM. Shafter	San Francisco	Surprise	50 00
Best bull, three years old (Jersey)	P. Stanton	Sacramento	Fernando	40 00
Best bull, two years old	Mark Hopkins	San Francisco	Duke Alexis	20 00
Second best bull, two years old	Mahon & Stanton	Sacramento County	Merced	10 00
Best bull, one year old	Nelse McDonald	Sacramento County	Rover	15 00

Second best bull, one year old	Mahon & Stanton	Sacramento County	Mexico	7 50
Best bull calf	Mark Hopkins	San Francisco	Alex	10 00
Second best bull calf	P. Stanton	Sacramento	Romeo	5 00
Best cow and her calf (calf under one year)	Mark Hopkins	San Francisco	Daisy 3d	40 00
Best cow, four years old and over	Jas. McM. Shafter	San Francisco	Rowena	40 00
Second best cow, four years old and over	E. F. Aitken	Sacramento	Jessie	20 00
Best cow, three years old	L. C. Powers	Sacramento	Minnie 4th	30 00
Best cow, two years old	L. C. Powers	Sacramento	Lalla Rookh 2d	20 00
Second best cow, two years old	P. Stanton	Sacramento	Caliente	10 00
Best cow, one year old	P. Stanton	Sacramento	Ione	15 00
Second best cow, one year old	Mahon & Stanton	Sacramento County	Floss	7 50
Best heifer calf	L. C. Powers	Sacramento	Maid of Oakland	10 00
Second best heifer calf	E. F. Aitken	Sacramento	Lillie	5 00
DEVONS, HEREFORDS, AYRSHIRES, HOLSTEINS, AND HOLDERNESS, IN ONE CLASS.				
Best bull, four years old and over	Mike Bryte	Sacramento	Dunbar	50 00
Best bull, two years old	R. McEnespy	Chico	Blucher	20 00
Best bull, one year old	Mike Bryte	Sacramento	Mose Drew	15 00
Best cow, four years old and over	Mike Bryte	Sacramento	Rosa	40 00
Best cow, two years old	Mike Bryte	Sacramento	Lizzie	20 00
Best cow, one year old	Mike Bryte	Sacramento	Carrie May	15 00
Best herd thoroughbred cattle over two years old, one bull and four cows, owned by one person	Coleman Younger	San José	Red Thorndale and three cows	100 00
Second best herd	D. M. Reavis	Chico	Stonewall and three cows	50 00
Best cow and calf	R. McEnespy	Chico	Annie and calf	Sp. pr. 40 00
CLASS II.—GRADED.				
Best cow, four years old and over	E. Comstock	Yolo County	Chub	30 00
Best cow, three years old	I. N. Hoag	Yolo County	Beauty	20 00
Best cow, two years old	E. Comstock	Yolo County	May Queen	15 00
Best cow, one year old	E. Comstock	Yolo County	Speck	10 00
Best heifer calf	E. Comstock	Yolo County	Spot	10 00
Best milch cow	E. Comstock	Yolo County	Woods	25 00
CLASS III.—SWEEPSTAKES.				
Best bull, of any age or breed	Coleman Younger	San José	Red Thorndale	100 00
Second best bull, of any age or breed	Jas. McM. Shafter	San Francisco	Stonewall	50 00
Best cow, of any age or breed	A. J. Scoggins	Tulare	Nellie Bly	75 00
Second best cow, of any age or breed	D. M. Reavis	Chico	Rosa Lee	35 00
Best bull, and five of his calves under one year	D. M. Reavis	Chico	Stonewall and five calves	100 00

LIVE STOCK.	Owner's Name.	Residence.	Name of Animal.	Premium.
Second best bull, and five of his calves under one year	Coleman Younger	San José	Airdrie Thorndale	$50 00
SHEEP—SPANISH MERINO.				
Best ram, two years old and over	L. U. Shippee	Stockton	Saxon Boy	20 00
Second best ram, two years old and over	L. U. Shippee	Stockton	California Boy	10 00
Best ram, one year and under two years old	L. U. Shippee	Stockton	Ben	15 00
Second best ram, one year and under two years old	L. U. Shippee	Stockton	Bob	5 00
Best three ram lambs	L. U. Shippee	Stockton	Pen of three ram lambs	15 00
Second best three ram lambs	Geo. W. Hancock	Sutter County	Pen of three ram lambs	5 00
Best pen of five ewes, two years old and over	L. U. Shippee	Stockton	Pen of five ewes	15 00
Second best pen of five ewes, two years old and over	L. U. Shippee	Stockton	Pen of five ewes	10 00
Best pen of five ewes, one year and under two years old	L. U. Shippee	Stockton	Pen of five ewes	15 00
Best pen of five ewe lambs	L. U. Shippee	Stockton	Pen of five ewe lambs	15 00
Second best pen of five ewe lambs	Geo. W. Hancock	Sutter County	Pen of five ewe lambs	10 00
Best ram and five of his lambs	L. U. Shippee	Stockton	Saxon boy and five lambs	20 00
FRENCH MERINO.				
Best ram, two years old and over	Mrs. R. Blacow	Alameda County	Domingo, Jr.	20 00
Second best ram, two years old and over	Mrs. R. Blacow	Alameda County	Private	10 00
Best ram, one year and under two years old	Mrs. R. Blacow	Alameda County	Romney	15 00
Second best ram, one and under two years old	Mrs. R. Blacow	Alameda County	Gladiator	5 00
Best three ram lambs	Mrs. R. Blacow	Alameda County	Pen of three ram lambs	15 00
Best pen of five ewes, two years old and over	Mrs. R. Blacow	Alameda County	Pen of five ewes	15 00
Best pen of five ewes, one year and under two years old	Mrs. R. Blacow	Alameda County	Pen of five ewes	15 00
Best pen of five lambs	Mrs. R. Blacow	Alameda County	Pen of five ewe lambs	15 00
Best ram and five of his lambs	Mrs. R. Blacow	Alameda County	Domingo, Jr., and lambs	20 00
COTSWOLD, LEICESTERSHIRE, LINCOLNSHIRE, SHROPSHIRE, AND CROSS OF SAME.				
Best ram, one year old and under two	Mrs. R. Blacow	Alameda County	Proud Salopian	15 00
Best ram and five of his lambs	Mrs. R. Blacow	Alameda County	Proud Salopian and five lambs	20 00

GRADED.				
Best five ewe lambs	Geo. W. Hancock	Sutter County	Pen of five ewe lambs	10 00
SWEEPSTAKES.				
Best ram, of any age or breed, and five of his lambs	Mrs. R. Blacow	Alameda County	Domingo, Jr., and lambs	50 00
Second best ram, of any age or breed, and five of his lambs	L. U. Shippee	Stockton	Saxon Boy and lambs	25 00
GOATS—THOROUGHBRED.				
Best buck, two years old and over	S. B. Thomas	Sacramento	John Gilpin	30 00
Second best buck, two years old and over	Gilmore Angora Goat Breeding Association	El Dorado County	Omar Pasha	20 00
Best buck, under two years old	Gilmore Angora Goat Breeding Association	El Dorado County	Mark Anthony	25 00
Second best buck, under two years old	Landrum & Rodgers	Santa Cruz County	Bartlett	15 00
Best pen of three does, two years old and over	Landrum & Rodgers	Santa Cruz County	Pen of three does	25 00
Second best pen of three does, two years old and over	Gilmore Angora Goat Breeding Association	El Dorado County	Pen of three does	15 00
Best pen of three does, under two years old	S. P. Thomas	Sacramento	Pen of three does	20 00
Second best pen of three does, under two years old	Gilmore Angora Goat Breeding Association	El Dorado County	Pen of three does	10 00
GRADED.				
Best pen of three does, two years and over	S. P. Thomas	Sacramento	Pen of three does	20 00
Best pen of three does, under two years old	S. P. Thomas	Sacramento	Pen of three does	15 00
SWEEPSTAKES.				
Best buck	S. P. Thomas	Sacramento	John Gilpin	40 00
Second best buck	Gilmore Angora Goat Breeding Association	El Dorado County	Mark Anthony	20 00
Best doe	Gilmore Angora Goat Breeding Association	El Dorado County	Cleopatra	20 00
Second best doe	S. P. Thomas	Sacramento	Queen of Placer	15 00
Best pen of ten kids	Gilmore Angora Goat Breeding Association	El Dorado County	Pen of ten kids	30 00
Second best pen of ten kids	Landrum & Rodgers	Santa Cruz County	Pen of ten kids	15 00
SWINE—ESSEX AND BERKSHIRE IN ONE CLASS.				
Best boar, two years old and over	John Rider	Sacramento	Duke Alex.	20 00
Best boar, under two years old	E. Comstock	Yolo County	Jake	15 00
Best pair of pigs, six to ten months old	Mike Bryte	Sacramento	Pair pigs	20 00
Best boar, six months and under one year old	Mike Bryte	Sacramento	Oshkosh Prince	10 00
Best breeding sow	Mike Bryte	Sacramento	Black Queen	20 00

First Department—Continued.

Live Stock.	Owner's Name.	Residence.	Name of Animal.	Premium.
POLAND CHINA.				
Best boar, two years old and over	W. B. Gibson	Woodland	Bismarck	20 00
Best boar, under two years old	Robert Roberts	Grafton	Rutherford	15 00
Best boar, six months and under one year old	W. C. Thomas	Woodland	Frederick	10 00
Best breeding sow	Robert Roberts	Grafton, Yolo County	Nellie	20 00
Best sow, six months and under one year old	Robert Roberts	Grafton, Yolo County	Maud	10 00
Best pair of pigs, six months to ten months old	Robert Roberts	Grafton, Yolo County	Pair pigs	20 00
SWEEPSTAKES.				
Best boar of any age or breed	Mike Bryte	Sacramento	Oshkosh Prince	30 00
Best sow of any age or breed	Mike Bryte	Sacramento	Black Queen	25 00
Best pen of six pigs of any age or breed	E. F. Aitken	Sacramento	Six pigs	20 00
POULTRY.				
Best lot of White Leghorns	A. P. Stewart	Sacramento		5 00
Best lot of Brown Leghorns	W. M. Reese	Sacramento		5 00
Best lot of Silver-Spangled Hamburgs	John Herring	Sacramento		5 00
Best lot of Polands	Elmer Davis	Sacramento		5 00
Best lot of Bantams	R. Davis	Sacramento		5 00
Best lot of Light Brahmas	John Herring	Sacramento		5 00
Best lot of Dark Brahmas	John Herring	Sacramento		5 00
Best lot of White Cochins	John Herring	Sacramento		5 00
Best lot of Buff Cochins	John Herring	Sacramento		5 00
Best lot of Black Spanish	F. S. George	Sacramento		5 00
Best lot of common turkeys	P. H. Fisher	Brighton		5 00
Best lot of bronze turkeys	Mrs. W. V. Miller	Sacramento		5 00
Best lot of ducks	John Harwin	Sacramento		5 00
Best lot of geese	P. H. Fisher	Brighton		5 00
SWEEPSTAKES.				
Best trio of fowls of any breed	John Herring	Sacramento	White Cochins	15 00

SECOND DEPARTMENT.

MACHINERY, IMPLEMENTS, ETC., AT PAVILION.

Exhibitors.	Address.	Articles.	Award.
		CLASS I.	
M. C. Hawley & Co.	Sacramento	Best portable saw mill	Diploma and $20.
Huntington, Hopkins & Co.	Sacramento	Best saw gummer	Special mention.
O. A. Olmstead	Santa Rosa	Best cultivator	Special mention.
M. C. Hawley & Co.	Sacramento	Best portable steam engine	Diploma.
Huntington, Hopkins & Co.	Sacramento	Best hot air engine	Diploma.
Huntington, Hopkins & Co.	Sacramento	Best fire extinguisher	Diploma.
W. P. Lewis & Co.	Oroville	Model of a dredging machine	Diploma.
L. L. Lewis & Co.	Sacramento	Scroll sawing machine	Diploma.
Thompson & Upson	San Francisco	Best display H. W. Johns' patent asbestos roofing	Diploma.
M. C. Hawley & Co.	Sacramento	Rice's portable straw-burning engine, side-mounted	Special mention.
		CLASS II.	
F. Cowan	San Francisco	Gopher trap	Special mention.
Huntington, Hopkins & Co.	Sacramento	Lawn mower	Special mention.
Huntington, Hopkins & Co.	Sacramento	Gopher trap	Diploma.
Huntington, Hopkins & Co.	Sacramento	Lawn sprinkler	Special mention.
		CLASS IV.	
O. A. Davis	Sacramento	Bee-hive	$3.
Nash & Klees	Sacramento	Fanning mill	$5.
Nash & Klees	Sacramento	Grain separator	Diploma.
L. H. Wooden	San Francisco	Windmill	Diploma.
George Miller	Sacramento	Bee-hive without bees	Special mention.
A. M. Abbott	Stockton	Model of windmill	Diploma.
W. W. Light	Sacramento	Bee-hive with bees	Diploma.
		CLASS V.	
Huntington, Hopkins & Co.	Sacramento	Display of haying and harvesting tools	Diploma.
Huntington, Hopkins & Co.	Sacramento	Sausage-meat cutter and stuffer	Special mention.
Huntington, Hopkins & Co.	Sacramento	Clothes wringer	Special mention.
		CLASS VII—VEHICLES.	
California Carriage Manufacturing Company	Sacramento	Best top buggies	Diploma and $20.
California Carriage Manufacturing Company	Sacramento	Best one-horse family carriage	$25.
California Carriage Manufacturing Company	Sacramento	Best two-horse family carriage	$20.
California Carriage Manufacturing Company	Sacramento	Best two-seated open carriage	$20.
California Carriage Manufacturing Company	Sacramento	Best trotting wagons	$15.
California Carriage Manufacturing Company	Sacramento	Best carriage brake	$5.

SECOND DEPARTMENT. MACHINERY, IMPLEMENTS, ETC., AT PAVILION—Continued.

EXHIBITORS.	Address.	Articles.	Award.
California Carriage Manufacturing Company	Sacramento	Best carriage springs	Special diploma.
California Carriage Manufacturing Company	Sacramento	Best sulky	Special diploma.
Huntington, Hopkins & Co.	Sacramento	Carriage and wagon axles	Diploma.
R. Dale & Co.	Sacramento	Best carriages or cabs for children	$5.
Sweepstake Plow Company	San Leandro	Best two-horse family top carriage	Diploma and $30.
Sweepstake Plow Company	San Leandro	Best two-horse market spring wagon	Premium recom.
Sweepstake Plow Company	San Leandro	Best mountain top buggy	Premium recom.
Sweepstake Plow Company	San Leandro	Best mountain open buggy	Premium recom.
Joseph F. Hill	Sacramento	Best farm wagon for general purposes	$15.
Joseph F. Hill	Sacramento	Best street goods wagon	$5.
Waterhouse & Lester	Sacramento	Best display of wheels, hubs, etc.	$10.
Waterhouse & Lester	Sacramento	Best assortment carriage material and trimmings	Special diploma.

MACHINERY, IMPLEMENTS, ETC., AT PARK.

EXHIBITORS.	Address.	Articles.	Award.
		CLASS I.	
J. C. Hoadley		Portable straw-burning engine, imported	Hon. mention.
M. C. Hawley & Co.	Sacramento	Rice's portable straw-burning engine, California manufacture	$25.
		CLASS II.	
Baker & Hamilton	Sacramento	Hollingsworth horse hay rake, imported	Diploma.
M. C. Hawley & Co.	Sacramento	"Gold Medal Thrashing Machine," imported	Diploma.
M. C. Hawley & Co.	Sacramento	Orchard post-hole auger, California manufacture	$5.
M. C. Hawley & Co.	Sacramento	Orchard well auger, California manufacture	$5.
Sacramento Plow Company	Sacramento	Sweep horse power, California manufacture	$10.
A. D. Miller	Brighton	Miller's horse power hay press, California manufacture	$40.
		CLASS III.	
Thomas J. Burke	Amador	Randall's pulverizing harrow, imported	Diploma.
A. D. Nehr	Roseville	Best cultivator, California manufacture	$10.
A. D. Nehr	Roseville	Best harrow, California manufacture	$10.

SECOND DEPARTMENT. MACHINERY, IMPLEMENTS, ETC., AT PARK—Continued.

EXHIBITORS.	Address.	Articles.	Award.
Baker & Hamilton	Sacramento	Self-raking reaping machine, "Champion," imported	Diploma.
Baker & Hamilton	Sacramento	Two-horse Gorham seeder, imported	Diploma.
Charles Keehner	Roseville	Iron harrow	Special mention.
S. E. Bowen	Stockton	Header, California manufacture	Hon. mention.
Sweepstake Plow Company	San Leandro	Header, California manufacture	$50.
Sweepstake Plow Company	San Leandro	Iron frame adjustable-tooth harrow, California manufacture	Hon. mention.
W. T. Easterday	Watsonville	Corn and seed planter, horse power, California manufacture	$5.
M. C. Hawley & Co.	Sacramento	Two-horse wheat drill, imported	Diploma.
M. C. Hawley & Co.	Sacramento	"Meadow King" mower, imported	Diploma.
Sacramento Plow Company	Sacramento	California screw mowing machine, California manufacture	First prem. $10.
Sacramento Plow Company	Sacramento	Horse hoe, California manufacture	$5.
William Gutenberg	Sacramento	Field roller and crusher, California manufacture	$10.
Sweepstake Plow Company	San Leandro	Gem broadcast grain sowing machine, California manufacture	$10.
		CLASS IV.	
John Bachelder	Napa	Windmill, California manufacture	$25.
B. Erlandsen	San Leandro	Farm gate, California manufacture	$15.
W. P. Fowler	Merced, Cal.	Model bee-hive, California invention	Hon. mention.
L. P. Denny & Co.	Biggs Station	Imported windmill	Diploma.
Nash & Kleese	Sacramento	Grain separator fanning mill, California manufacture	$5.
		CLASS V.	
Sweepstake Plow Company	San Leandro	Improved road scraper, California manufacture	$5.
Sweepsteak Plow Company	San Leandro	Power apparatus for raising water for mining purposes, California manufacture	$20.
William Laufkotter	Sacramento	Apparatus for raising water for irrigating purposes, California manufacture	$20.
M. C. Hawley & Co.	Sacramento	Apparatus for raising water for irrigating purposes, California manufacture	Hon. mention.
M. R. Rose	Sacramento	Well pump, California manufacture	$10

EXHIBITORS.	Address.	Articles.	Award.
		CLASS VI.	
G. Lessenden	Stockton	Three-plow riding gang plow, "Star of the West," California manufacture	Special diploma.
Sweepstake Plow Company	San Leandro	Gang plow, "Hill's Eureka," California manufacture	$100.
Sweepstake Plow Company	San Leandro	Stubble plow, single, California manufacture	$10.
Sacramento Plow Company	Sacramento	Two plows, "Iron King"	Special diploma.
Sacramento Plow Company	Sacramento	One-horse plow, California manufacture	$5.
Sweepstake Plow Company	San Leandro	Best display of agricultural machinery by one house, California manufacture	$50.
		MISCELLANEOUS.	
C. P. Hatch	Petaluma	Fruit and hop dryer, California manufacture	Special diploma.
W. H. Hampton	Davisville	Centennial shoulder-locking portable farm fence, California manufacture	Hon. mention.
D. H. Howe	Davisville	Portable farm fence, California manufacture	Hon. mention.
T. D. Hardesty	Sacramento	Tire tightener, California manufacture	Special diploma.
D. A. Calhoun	Texas	Ground squirrel exterminator, California manufacture	Special diploma.
Thompson & Upson	San Francisco	Single air-chamber boiler covering	Diploma.
R. R. Doan	Sacramento	Fireman's road locomotive engine, California manufacture	Special diploma.
J. Q. Grinnell	Stockton	Centennial field derrick, fork and net, California manufacture	Hon. mention and diploma.

THIRD DEPARTMENT.

TEXTILE FABRICS, AND MATERIALS FROM WHICH THEY ARE MADE.

EXHIBITORS.	Address.	Articles.	Awards.
		CLASS I.	
Capital Woolen Mills	Sacramento	Best exhibition of woolen goods by one factory	$50.
Locke & Lavenson	Sacramento	Best fifteen yards of woolen carpet	Silver medal.
Mrs. W. M. Lyon	Sacramento	Best hearth rug	$5.
Capital Woolen Mills	Sacramento	Best Mackinaw blanket	$5.
Capital Woolen Mills	Sacramento	Best ten pounds assorted yarn	$3.

THIRD DEPARTMENT. TEXTILE FABRICS, AND MATERIALS FROM WHICH THEY ARE MADE—Continued.

EXHIBITORS.	Address.	Articles.	Award.
Mrs. Lucy A. Stevens	Elk Grove	Best ten yards rag carpet	$10.
E. Detrick & Co.	San Francisco	Best exhibition of burlaps and material from which it is made	Silver medal.
Locke & Lavenson	Sacramento	Best exhibition of carpets and rugs	$20.
R. Dale & Co.	Sacramento	Best exhibition of naval and military goods and regalia	Silver medal.
Mrs. W. P. Rutherford	Petaluma	Best exhibition of shoulder braces and corsets	Silver medal.
N. Gilmore	El Dorado	Best seven samples California mohair, showing different processes of manufacture; two Angora goat skins; display of mohair; seven samples of Turkish mohair	Spe., sil. medal.
Ackerman & Co.	Sacramento	Display of silver-plated ware	Special diploma.
Miss Nealy Y. Brown, (eight years old)	Sacramento	Embroidered pincushion and mat	Spe., butter knife
R. Dale & Co.	Sacramento	Best display of fancy goods	$20.
Miss Jennie Blake, (eight years old)	Sacramento	Best pair cornucopias	Special mention.
Miss Jennie Blake, (eight years old)	Sacramento	Pair match boxes and hairpin box	Spe., napkin ring.
E. Detrick & Co.	San Francisco	Patent awnings and tent	Special diploma.
Henry Fisher	Sacramento	Best display of cakes	Special diploma.
		CLASS 11.	
Thomas Harper	Sacramento	Best display of shoes, lasts, pegs, and lasting machine	$5.
Thomas Harper	Sacramento	Best pair dress boots	$5.
Thomas Harper	Sacramento	Best pair heavy boots	$5.
Thomas Harper	Sacramento	Best pair gents' dress shoes	$5.
Thomas Harper	Sacramento	Best pair Congress gaiters	$5.
James Parsons	Sacramento	Best pair ladies' slippers	$3.
James Parsons	Sacramento	Best pair ladies' gaiters	$3.
James Parsons	Sacramento	Best pair ladies' boots	$3.
Thomas Harper	Sacramento	Best display of men's and boys' boots, shoes, gaiters, etc.	Silver medal.
James Parsons	Sacramento	Best display of ladies' and girls' boots, shoes, and gaiters	Silver medal.
Gus. Lavenson	Sacramento	Best display of ladies' and girls' boots, shoes, gaiters, etc.	Hon. mention.
John F. Slater	Sacramento	Best gent's silk hat	$5.
D. H. Quinn	Sacramento	Best soft hat	$5.
D. H. Quinn	Sacramento	Best collection of furs	$25.
C. H. Gilman	Sacramento	Best exhibit of men's clothing	Special mention.

JUVENILE DEPARTMENT.

Exhibitors.	Address.	Articles.	Award.
Miss Emma M. Hartwell (fourteen years)	Sacramento	Best hand sewing, five pieces	Silver medal.
Miss Elizabeth Maier (six years)	Sacramento	Best crochet work	Napkin ring.
Miss Flora H. Carroll (twelve years)	Sacramento	Best silk embroidery	Butter knife.
Miss Minnie P. Carroll (ten years)	Sacramento	Best cotton embroidery	Butter knife.
Miss Mamie L. Whyte (ten years)	Sacramento	Best wax work	$5.
Miss Loulie Tyrrell (ten years)	Sacramento	Best worsted work	Butter knife.
Miss Emma M. Hartwell (fourteen years)	Sacramento	Best silk quilt	$5.
Miss Dora E. Doan (twelve years)	Sacramento	Best cotton quilt	Napkin ring.
Miss Lillie Wilcox	Sacramento	Best leaf and moss work	$3.
Miss Emma M. Hartwell (fourteen years)	Sacramento	Best and largest display of fancy articles	$20.
Miss Flora H. Carroll (twelve years)	Sacramento	Best embroidered pincushion	Spe., napkin ring.
Miss Amy Heubert (nine years)	Sacramento	Best sofa cushion	$5.
Miss Minnie P. Carroll (ten years)	Sacramento	Best three embroidered handkerchiefs	Spe., napkin ring.
Miss Nettie Belle Avery (twelve years)	Sacramento	Best three tidies	Spe., napkin ring.
Master Edward Fry (nine years)	Sacramento	Best rag mat	Spe., napkin ring.
Miss Mellie Robin, (fourteen years old)	Sacramento	Two crochet mats, and pair worsted slippers	Spe., butter knife.
Frankie Chandler, (nine years old)	Sacramento	Set of rustic toy furniture	Spe., napkin ring.
Miss Lucy E. Acock, (seven years old)	Sacramento	Worsted tidy	Spe., napkin ring.
Miss Amy Heubert, (nine years old)	Sacramento	Bouquet wax flowers	Special mention.
Miss Amy Heubert, (nine years old)	Sacramento	Two initialed handkerchiefs	Special mention.
Miss Amy Heubert, (nine years old)	Sacramento	One handkerchief box	Special mention.
Miss Hattie A. Knox	Sacramento	Worsted tidy	Special mention.
Miss Linda J. Farnsworth	Sacramento	Worsted wreath	Special mention.
Miss Eva May Brogan, (eleven years old)	Sacramento	Parlor set, worsted work	Special mention.
Miss Eva May Brogan, (eleven years old)	Sacramento	Motto, worsted work	Special mention.
Miss Emma N. Chapman	Sacramento	Perforated card-board	Special mention.
Miss Linnie Farnsworth	Sacramento	Knitted worsted sack and hairpin box	Napkin ring.
Eugene Wachhorst, (eleven years old)	Sacramento	Pencil drawing	Hon. mention.
Miss Lillie Wilcox	Sacramento	Wreath of natural flowers	Hon. mention.
Miss Mercy Farnsworth	Sacramento	Card receiver	Spe., napkin ring.
Master Euclid Farnsworth	Sacramento	Card receiver and letter-holder	Spe., napkin ring.
Miss Amelia Behrens	Dixon	Bouquet of worsted flowers, framed	Spe., napkin ring.
		CLASS III.	
Angora Robe and Glove Company	San José	Assortment leather gloves and mittens	Silver medal.

JUVENILE DEPARTMENT—Continued.

EXHIBITORS.	Address.	Articles.	Award.
Mrs. F. A. Burke	Sacramento	Ottoman cover	$5.
Mrs. A. C. Freeman	Sacramento	Two table covers	$5.
Mrs. R. Davis	Sacramento	Fancy chair cushion and back	$5.
Mrs. R. O. Cravens	Sacramento	Crochet shawl	$5.
Mrs. W. M. Lyon	Sacramento	Ornamental needlework	$5.
Miss Nettie M. Montfort	Sacramento	Silk embroidery	$5.
Mrs. Applegate	Sacramento	Sofa embroidered cushion	$5.
Miss Nettie M. Montfort	Sacramento	Two embroidered handkerchiefs	$3.
Mrs. E. Howe	Sacramento	Tatting collar	$3.
Miss Nettie M. Montfort	Sacramento	Two worked handkerchiefs	$3.
Miss Nettie M. Montfort	Sacramento	Linen embroidery	$10.
Miss Nettie M. Montfort	Sacramento	Specimen of braid-work	$5.
Miss Mollie Murphy & Co.	Sacramento	Silk bonnet	$5.
Miss Mollie Murphy & Co.	Sacramento	Artificial flowers	$10.
Miss D. H. Emmons	Sacramento	Velvet bonnet	$5.
Mrs. W. M. Lyon	Sacramento	Wax flowers	$10.
Mrs. John Shellers	Sacramento	Wax fruit	$5.
Mrs. C. Lages	Sacramento	Leaf work	$5.
Mrs. W. M. Lyon	Sacramento	Flower work	$5.
R. Dale & Co.	Sacramento	Shell work (by Mrs. Vida B. Lackey)	$5.
Miss Mary Kokner	Sacramento	Embroidered picture	$10.
Mrs. Sarah H. Young	Black's Station, Yolo County	White quilt	$5.
Mrs. S. McBrien	San Francisco	Worked crochet quilt	$5.
Mrs. J. P. Odbert	Sacramento	Silk quilt	$5.
Mrs. J. P. Odbert	Sacramento	Two patchwork quilts	$5.
Mrs. F. Wachhorst	Sacramento	Wax work statuary	$10.
W. F. Peterson	Sacramento	Display of confectionery	$10.
Miss Mollie Murphy & Co.	Sacramento	Display of millinery	$20.
Mrs. W. M. Lyon	Sacramento	Chenille embroidery	$5.
Mrs. W. M. Lyon	Sacramento	Lamp-stand mat	$3.
Mrs. S. A. Winn	Sacramento	Bead work	$5.
Mrs. E. Schofield	Sacramento	Collection of straw and glass-work	Spe., silver medal.
Miss Lillie Wilcox	Sacramento	Leaves and natural flowers, pressed	$5.
Mrs. Jennie McFadden	Sacramento	Hair wreath	Spe., napkin ring.
Mrs. Jennie McFadden	Sacramento	Worsted wreath	Spe., napkin ring.
Mrs. Jennie Domingos	Sacramento	Cotton net spread	$5.
Mrs. J. W. Mandeville	Columbia	Spatterwork tidy	Spe., napkin ring.
Mrs. G. L. Simmons	Sacramento	Patchwork mat	Spe., napkin ring.
Mrs. Windmiller	Folsom	Knitted tidy	Spe., napkin ring.
Mrs. A. Adams	Davisville	Two chemises, two skirts, four pillow cases, one sheet, skirt trimming, one towel—Spanish needlework	Spe., silver medal.
Mrs. M. D. Moore (seventy-one years)	Sacramento	Knitted shell quilt	Spe. prem., $5.
Miss Gussie Mier	Sacramento	Cow's horn cross, glass case	Spe., napkin ring.
W. F. Peterson	Sacramento	Various candy figures	Special diploma.
Miss M. Brothers	Sacramento	Display of millinery material	Spe., silver medal.
Miss Amelia Theiss (sixty-three years)	Sacramento	Log cabin quilt	Spe., napkin ring.
Miss Annie M. Gerber	Sacramento	Wax work; knitted quilt; six pieces needle work, bed set	Spe., silver medal.
Mrs. Edith Berkey	Sacramento	Foot rest	Spe., napkin ring.
Mrs. Wm. Crutcher	Auburn	Lace barb and lace by the yard	Spe., silver medal.
G. D. Allmond	Sacramento	Assortment of gloves and mittens	Special diploma.
Mrs. D. McCarty	Marysville	Feather flowers	Spe., napkin ring.

EXHIBITORS.	Address.	Articles.	Award.
Mrs. Peyser, per Honorable Thos. Beck	San Francisco	Carriage afghan	Spe., napkin ring.
J. T. Clevinger	Sacramento	Worsted chair-back	Hon. mention.
J. T. Clevinger	Sacramento	Bible mat	Hon. mention.
J. T. Clevinger	Sacramento	Piano stool cover	Hon. mention.
Miss Ella Tubbs	Sacramento	Tatting tidy	Hon. mention.
Miss Ella Tubbs	Sacramento	Java canvas tidy	Hon. mention.
Miss Ella Tubbs	Sacramento	Two wadding figures	Hon. mention.
Miss Ella Tubbs	Sacramento	Hairpin holder	Hon. mention.
Miss Ella Tubbs	Sacramento	Canton flannel bird	Hon. mention.
Miss Ella Tubbs	Sacramento	Two beaded sofas	Hon. mention.
Miss Ella Tubbs	Sacramento	Jewel box	Hon. mention.
Miss Ella Tubbs	Sacramento	Splint basket	Hon. mention.
Mrs. Joanna Whitlock	Sacramento	Ten pieces Spanish needle work	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Three pieces silk embroidery	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Ottoman cover	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Embroidered table cover	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Wax fruit	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Leaf work	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Straw or grass work	Hon. mention.
Miss Nettie M. Montfort	Sacramento	Embroidered sofa cushion	Hon. mention.
Mrs. G. F. Lyon	Sacramento	Worsted rug, dressing case mat	Hon. mention.
Mrs. John Shellers	Sacramento	Wax flowers	Hon. mention.
Miss Fletcher	Sacramento	Worsted flower piece, framed	Hon. mention.
Miss Lillie Wilcox	Sacramento	Embroidered stand cover	Hon. mention.
Miss Lillie Wilcox	Sacramento	Decalcomanie air castle	Hon. mention.
Miss Lillie Wilcox	Sacramento	Embroidered watch case	Hon. mention.
Miss Lillie Wilcox	Sacramento	Splint frames	Hon. mention.
Miss Lillie Wilcox	Sacramento	Splint basket and grasses	Hon. mention.
Miss Lillie Wilcox	Sacramento	Lambrequin, in applique work	Hon. mention.
Miss Lillie Wilcox	Sacramento	Decalcomanie picture and frame	Hon. mention.
Miss Lillie Wilcox	Sacramento	Match receiver	Hon. mention.
Miss Fannie Kohner	Sacramento	Embroidered picture	Hon. mention.
Miss Mary Kohner	Sacramento	Embroidered vest	Hon. mention.
Miss Gussie Mier	Sacramento	Wire worsted wreath, framed	Hon. mention.
Miss Gussie Mier	Sacramento	Seed wreath	Hon. mention.
Miss Gussie Mier	Sacramento	Bouquet of combed out worsted	Hon. mention.
Mrs. S. P. Milligan	Sacramento	Tatting tidy; slipper case	Hon. mention.
Mrs. S. P. Milligan	Sacramento	Pair of slippers; towel rack	Hon. mention.
Mrs. S. P. Milligan	Sacramento	Chemise band; cigar holder	Hon. mention.
Miss M. Brothers	Sacramento	Display of ostrich and other feathers	Hon. mention.
Mrs. Sarah H. Young	Black's Station	Patchwork quilt	Hon. mention.
Mrs. S. McBrien	San Francisco	Sheet and pillow shams	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Specimen of shell work	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Embroidered chair-back and seat	Hon. mention.
Mrs. W. M. Lyon	Sacramento	Wax model of a human hand	Hon. mention.
Mrs. F. A. Burke	Sacramento	Three pieces of worsted knitting	Hon. mention.
Miss D. H. Emmons	Sacramento	Display of artificial flowers and feathers	Hon. mention.
Mrs. F. Wachhorst	Sacramento	Wax flowers	Hon. mention.
Miss Annie M. Gerber	Sacramento	Four pieces of wax statuary	Hon. mention.
Mrs. R. Davis	Sacramento	Two ottomans, and embroidered sofa pillow	Hon. mention.
Mrs. A. C. Freeman	Sacramento	Bouquet of worsted flowers, framed	Hon. mention.
Mrs. Josephine Riley	Sacramento	Ornamental wax cross	Hon. mention.
J. Neubauer	Sacramento	Hair jewelry; wigs; braids and curls; hair picture, and machine for working hair	Special diploma.
Henry Fisher	Sacramento	Castle (confectionery)	Hon. mention.

JUVENILE DEPARTMENT—Continued.

EXHIBITORS.	Address.	Articles.	Award.
Tubbs & Co. (San Francisco Cordage Company)	San Francisco	Display of cordage	
A. Hamburger	Sacramento	Display of silk goods	Special diploma.

FOURTH DEPARTMENT.

MECHANICAL PRODUCTS.

EXHIBITORS.	Address.	Articles.	Award.
		CLASS I.—MANUFACTURES OF LEATHER.	
R. Stone & Co.	Sacramento	Best set of double harness	Sil. med. and $10.
J. T. Stoll	Sacramento	Two sets of single harness	$10.
R. Stone & Co.	Sacramento	Display of Mexican saddles	$10.
J. T. Stoll	Sacramento	Best display of saddles and bridles	$10.
R. Stone & Co.	Sacramento	Best display of saddle-trees	$5.
R. Stone & Co.	Sacramento	Best display of leather	$10.
R. Stone & Co.	Sacramento	Best display of horse collars	Special diploma.
Mrs. F. A. Burke	Sacramento	Lustre tea set	Special mention.
		CLASS II.	
Samuel Jelly	Sacramento	Best display of silver ware	$25.
G. H. Swinerton	Sacramento	Best display of copper work	$20.
Bullard & Loftus	Sacramento	Best display of brass work	Diploma and $20.
Bullard & Loftus	Sacramento	Best display of hose couplings	Special diploma.
L. L. Lewis & Co.	Sacramento	Best display of chandeliers and burners; reflecting-chandelier, manufactured in Sacramento	Diploma and $10.
S. H. Davis	Sacramento	Assorted mechanics' tools	$10.
Holbrook, Merrill & Co.	Sacramento	Best display of kitchen utensils of tin	$5.
Holbrook, Merrill & Co.	Sacramento	Best display of copper utensils	$10.
Ackerman & Co.	Sacramento	Best display of plated ware	$5.
Bush Bros.	Sacramento	Best display of lamps	$10.
Huntington, Hopkins & Co.	Sacramento	Best display of general hardware	$10.
Huntington, Hopkins & Co.	Sacramento	Best display of locks	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of door trimmings	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of window trimmings	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of hand saws	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of pruning shears	$5.
Huntington, Hopkins & Co.	Sacramento	Patent spring for window sashes	Hon. mention.

EXHIBITORS.	Address.	Article.	Award.
Huntington, Hopkins & Co.	Sacramento	Best display of anti-friction metal	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of shot	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of pruning knives	Special mention.
Huntington, Hopkins & Co.	Sacramento	Best display of brass goods	Diploma.
G. H. Swinerton	Sacramento	Best display of milk cans	$5.
Giraud & Pitcher	Sacramento	Best display of axes	$5.
Giraud & Pitcher	Sacramento	Best display of pocket cutlery	$5.
Giraud & Pitcher	Sacramento	Best display of files	$5.
Giraud & Pitcher	Sacramento	Best display of assayers' and watchmakers' tools	Hon. mention.
Giraud & Pitcher	Sacramento	Best display of shells for breech-loading guns	Hon. mention.
		CLASS III.	
L. L. Lewis & Co.	Sacramento	Cooking stoves, for wood	$5.
G. H. Swinerton	Sacramento	Cooking stoves, for coal	$5.
Holbrook, Merrill & Co.	Sacramento	Best display of marbleized iron ware	$3.
E. B. Mott, Jr.	Sacramento	Six best parlor stoves	$5.
W. G. Williams	Sacramento	Six best oil stoves	$5.
Holbrook, Merrill & Co.	Sacramento	Best hollow iron ware	$5.
G. H. Swinerton	Sacramento	Four best portable ranges	$5.
G. H. Swinerton	Sacramento	Best warming furnace	$5.
L. L. Lewis & Co.	Sacramento	Best cooking range	$10.
L. L. Lewis & Co.	Sacramento	Best ornamental iron vases	$3.
L. L. Lewis & Co.	Sacramento	Best assortment bathing tubs	Diploma.
E. B. Mott, Jr.	Sacramento	Best farmers' cauldron	$5.
Holbrook, Merrill & Co.	Sacramento	Best parlor stove	$5.
E. F. Scofield	Sacramento	Best flower stand	$5.
		CLASS IV.	
A. M. Goodnough (Goodnough & Thurston)	San Francisco	Best boudoir piano	$20.
Sherman, Hyde & Co.	San Francisco	Best square piano	$20.
Capital Furniture Co.	Sacramento	Best dressing bureau	$10.
J. G. Davis	Sacramento	Best sofa	$10.
J. G. Davis	Sacramento	Best lounge	$5.
John Breuner	Sacramento	Best extension table	$5.
John Breuner	Sacramento	Best office chair	$5.
J. G. Davis	Sacramento	Best set parlor chairs	$10.
Capital Furniture Co.	Sacramento	Best center table	$5.
John Breuner	Sacramento	Best gilt side tables	$5.
John Breuner	Sacramento	Best set parlor furniture	$20.
John Breuner	Sacramento	Best display of furniture	$20.
Rickoff, Clark & Co.	Sacramento	Best display of mattresses	$5.
John Breuner	Sacramento	Best writing desk	$5.
Capital Furniture Co.	Sacramento	Best book case	$5.
John Breuner	Sacramento	Best wardrobe	$10.
Olds & Eaton	Sacramento	Best spring bed	Special diploma.
Capital Furniture Co.	Sacramento	Best set of bedroom furniture	$10.
J. G. Davis	Sacramento	Best display of upholstery	$10.
Joseph Curtis	San José	Best display of organs	Special diploma.
John Breuner	Sacramento	Best invalid's chair	$15.
		CLASS V.	
Nichols, Blum & Co.	Sacramento	Best display of cedar ware	$5.
Nichols, Blum & Co.	Sacramento	Best display of pine ware	$5.
Nichols, Blum & Co.	Sacramento	Best display of oak ware	$5.
Nichols, Blum & Co.	Sacramento	Best display of wooden ware	$25.
Foster & Billingsley	Sacramento	Best display of broom corn and brushes	$10.

FOURTH DEPARTMENT. MECHANICAL PRODUCTS—Continued.

EXHIBITORS.	Address.	Articles.	Award.
C. Shafer	Sacramento	Best display of coopers' wares	$15.
Wm. Eberhardt	Sacramento	Best display of lathe work	$5.
Wm. Eberhardt	Sacramento	Best display of osier willow work	$5.
Wm. Eberhardt	Sacramento	Best display of wood carving	Special diploma.
Wm. Eberhardt	Sacramento	Best ivory spinning wheels and billiard balls	Special mention.
Wm. Eberhardt	Sacramento	Best brackets	Special mention.
		CLASS VI.	
H. C. Kirk & Co.	Sacramento	Best surgical instruments	Diploma.
H. C. Kirk & Co.	Sacramento	Best dentist's instruments	Diploma.
Mrs. H. E. Israel	Stockton	Best washing calenders	Hon. mention.
Wm. Eberhardt	Sacramento	Best breech-loading gun, shot and powder flasks	Hon. mention.
A. Flohr	Sacramento	Best double-barreled shot-gun, California make	$5.
A. Flohr	Sacramento	Best game-bag, California make	$3.
H. Eckhardt	Sacramento	Best sporting rifle, California make	$5.
Dr. Geo. A. Stephenson	Sacramento	Best artificial leg, trusses, supporters, extensor for club foot, and back instrument for curve of spine	Special diploma.
Mrs. W. P. Rutherford	Petaluma	Abdominal supporters	Special diploma.
H. Eckhardt	Sacramento	Best and largest display of fire-arms, American make	Special diploma.
R. W. Jackson	San Francisco	Eight-day clock, abalone shell case	Special diploma.
George W. Safford	Sacramento	Paper hunting boat	Hon. mention.
		CLASS VII.	
H. S. Crocker & Co.	Sacramento	Best display of soap	Silver medal.
Bowen Bros.	San Francisco	Best yeast powders	$5.
Huntington, Hopkins & Co.	Sacramento	Best display of blacking	$3.
Pitcher & Palmer	Sacramento	Best lubricating petroleum	$5.
Houseman & Gilmore	Sacramento	Best illuminating petroleum	$5.
Pacific Rubber Paint Company	San Francisco	Best samples of paint, California make	$5.
Huntington, Hopkins & Co.	Sacramento	Best stove polish	$5.
H. C. Kirk & Co.	Sacramento	Best collection of drugs	Special diploma.
H. S. Crocker & Co.	Sacramento	Display of McKeone, Van Hagen & Co's soap	Special diploma.
Smith & Stone	San Diego	Samples of salt	Hon. mention.
		CLASS VIII.	
Aitken & Luce	Sacramento	Best display of California marble	$20.
George Miller	Sacramento	Best samples of drain tile	$5.
George Miller	Sacramento	Best samples of artificial stone flooring	$5.
Gladding, McBien & Co.	Lincoln	Vitrified sewer pipe	Diploma.
J. Peter	Petaluma	Water filterer and cooler	Special diploma.
George Miller	Sacramento	Best exhibit of flue pipe and statuary in stone	Special diploma.
		CLASS IX.	
Joseph Dunkerly	Sacramento	Best collection illustrating the ornithology of California, sixty-two cases of birds and five hundred specimens	Silver medal.

EXHIBITORS.	Address.	Articles.	Award.
Joseph Dunkerly	Sacramento	Best suit of the animal kingdom, including insects injurious to the farmer	Silver medal.
Mrs. H. Cronkite	Brighton	Parlor aquarium	Silver medal.
R. E. Goggins	Sacramento	Three glass shades of birds	Hon. mention.

FIFTH DEPARTMENT.

FARM PRODUCTS, FOOD, CONDIMENTS, ETC.

EXHIBITORS.	Address.	Articles.	Award.
		CLASS I.—SILK, COTTON, AND TOBACCO.	
Manuel F. Manix	New Castle	Best California grown tobacco	Sil. med. and $25.
		CLASS II.—FLOUR AND GRAIN.	
T. L. Chamberlain	Lincoln	Best four varieties of wheat, not less than two bushels of each variety	$100.
P. H. Murphy	Sacramento	Two bushels of barley	$10.
F. P. Lowell	Sacramento	Two bushels of rye	$20.
R. J. Merkley	Sacramento Co.	One bale of hops	$10.
E. Comstock	Yolo County	One bale of alfalfa seed	$10.
A. D. Miller	Sacramento Co.	Two bushels of white wild oats	$10.
		CLASS III.—VEGETABES, ROOTS, ETC.	
F. Beersi & Co.	Sutterville	Best half bushel of red potatoes	$5.
O. O. Goodrich	Sacramento	Best half bushel of white potatoes	$5.
F. Beersi & Co.	Sacramento	Best half bushel of other variety of potatoes	$5.
O. O. Goodrich	Sacramento	Best and greatest variety of Irish potatoes, half peck of each variety	$10.
F. Beersi & Co.	Sacramento	Best half bushel of sweet potatoes	$5.
F. Beersi & Co.	Sacramento	Best twelve parsnips	$3.
F. Beersi & Co.	Sacramento	Best twelve carrots	$3.
F. Beersi & Co.	Sacramento	Best six long blood beets	$3.
John Smith	Sacramento	Best six sugar beets	$3.
John Smith	Sacramento	Best peck of tomatoes	$3.
F. Beersi & Co.	Sacramento	Best six drum head cabbages	$3.
F. Beersi & Co.	Sacramento	Best six heads of red Dutch cabbages	$3.
F. Beersi & Co.	Sacramento	Best six heads of any other variety of cabbages	$3.
F. Beersi & Co.	Sacramento	Best three heads of cauliflowers	$3.
F. Beersi & Co.	Sacramento	Best three heads of broccoli	$3.
F. Beersi & Co.	Sacramento	Best six heads of lettuce	$2.
F. Beersi & Co.	Sacramento	Best half peck of red onions	$3.

FIFTH DEPARTMENT. FARM PRODUCTS, FOOD, CONDIMENTS, ETC.—Continued.

EXHIBITORS.	Address.	Articles.	Award.
F. Beersi & Co.	Sacramento	Best half peck of yellow onions	$3.
F. Beersi & Co.	Sacramento	Best half peck of peppers, for pickling	$3.
F. Beersi & Co.	Sacramento	Best twelve roots of salsify	$3.
F. Beersi & Co.	Sacramento	Best six stacks of celery	$3.
F. Beersi & Co.	Sacramento	Best six marrow squashes	$3.
F. Beersi & Co.	Sacramento	Best six Hubbard squashes	$3.
F. Beersi & Co.	Sacramento	Best six crooked neck squashes	$3.
F. Beersi & Co.	Sacramento	Best six largest pumpkins	$5.
F. Beersi & Co.	Sacramento	Best twelve ears of sweet corn (green)	$3.
F. Beersi & Co.	Sacramento	Best three green fleshed muskmelons	$3.
F. Beersi & Co.	Sacramento	Best three yellow fleshed muskmelons	$3.
F. Beersi & Co.	Sacramento	Best six cucumbers	$2.
F. Beersi & Co.	Sacramento	Best half peck of Lima beans in pod	$3.
Jesse Aitken	Sacramento Co.	Best half peck of beans, dry	$5.
F. Beersi & Co.	Sacramento	Best half peck of pole beans, other than Lima, in pod	$3.
F. Beersi & Co.	Sacramento	Best and greatest variety of peas, dry	$5.
F. Beersi & Co.	Sacramento	Best half peck of kidney beans, in pod	$3.
F. Beersi & Co.	Sacramento	Best half peck of gherkins	$3.
F. Beersi & Co.	Sacramento	Best three purple egg plants	$3.
F. Beersi & Co.	Sacramento	Best table of vegetables exhibited by one producer	$25.
D. DeBernardi	Sacramento	Best table of vegetables exhibited by one person not a producer	$30.
Jesse Aitken	Sacramento Co.	Best half peck castor oil beans	$5.
B. W. Miller	Sacramento	Best half peck field peas	$2.
H. E. Miller	Sacramento	Best half peck of garden beans	$3.
John Smith	Sacramento	Best bundle of teazels	Hon. mention.
Jesse Aitken	Sacramento	Best thirteen varieties of garden peas	$5.
		CLASS IV.—FLOWERS.	
F. A. Ebel	Sacramento	Best and largest collection of flowering plants in bloom	$25.
F. A. Ebel	Sacramento	Best collection of ornamental foliage plants	$25.
F. A. Ebel	Sacramento	Best collection of new and rare plants	$15.
F. A. Ebel	Sacramento	Best collection of roses in bloom	$15.
F. A. Ebel	Sacramento	Best collection of fuchsias in bloom	$15.
F. A. Ebel	Sacramento	Best display of cut flowers	$10.
F. A. Ebel	Sacramento	Best display of bouquets	$10.
F. A. Ebel	Sacramento	Best collection of Australian plants	$10.
F. A. Ebel	Sacramento	Best collection of plants suitable for greenhouse, conservatory, and window culture	$15.
Mrs. E. H. Williams	Sacramento	Best display of hanging baskets containing plants	$10.
Mrs. H. Cronkite	Brighton	Best two begonias	Special diploma.
		CLASS V.—CHEESE.	
J. W. Mitchell	San Mateo	Best cheese, one year old	$15.

Exhibitors.	Address.	Articles.	Award.
		CLASS VI.—BUTTER.	
Mrs. E. F. Aitken	Sacramento	Best ten pounds of butter in rolls	$10.
Mrs. H. Cronkite	Brighton	Best firkin (June) butter	$15.
		BREAD AND CEREAL FOOD.	
Miss Dora Doan (seventeen years)	Sacramento	Best domestic wheat bread	$5.
Mrs. E. F. Aitken	Sacramento	Best domestic corn bread	$5.
Mrs. E. F. Aitken	Sacramento	Best domestic brown bread	$5.
W. F. Peterson	Sacramento	Best four loaves of baker's bread	$3.
Mrs. W. V. Miller	Sacramento	Best raised biscuit	$2.

SIXTH DEPARTMENT.

FRUITS.

Exhibitors.	Address.	Articles.	Award.
		CLASS I.—GREEN FRUITS.	
		Apples.	
O. O. Goodrich	Sacramento	Best display of apples	$20.
W. S. Manlove	Brighton	Best twelve varieties of apples	$10.
F. A. Ebel	Sacramento	Best six varieties of apples	$5.
T. K. Stewart	Sacramento	Best three varieties of apples	$3.
		Pears.	
Robert Williamson	Sacramento	Best display of pears	$20.
James Holland	Sacramento	Best twelve varieties of pears	$10.
F. M. Smith	Sacramento	Best six varieties of pears	$5.
O. O. Goodrich	Sacramento	Best three varieties of pears	$3.
		Peaches.	
E. M. Smith	Coloma	Best display of peaches	$15.
Charles A. Bamber	Placerville	Best six varieties of peaches	$10.
J. T. Wight	Patterson's Station	Best one variety of peaches	$5.
		Plums.	
Charles A. Bamber	Placerville	Best display of plums	$10.
E. M. Smith	Coloma	Best five varieties of plums	$5.
E. M. Smith	Coloma	Best one variety of plums	$3.
		Figs.	
F. A. Ebel	Sacramento	Best green figs	$5.
		Lemons.	
T. K. Stewart	Sacramento	Best one variety of lemons	$5.
		Oranges.	
E. M. Smith	Coloma	Greatest number and best specimens of oranges	$5.

SIXTH DEPARTMENT. FRUITS—Continued.

EXHIBITORS.	Address.	Articles.	Award.
		GENERAL DISPLAY.	
Robert Williamson	Sacramento	Best general display of fruit, embracing best and greatest varieties	$25.
E. M. Smith	Coloma	Best display of fruit by the producer	$20.
Robert Williamson	Sacramento	Best display of seedling fruit	$10.
F. A. Ebel	Sacramento	Best display of tropical fruit	$10.
		CLASS II.	
Mrs. H. Cronkite	Brighton	Best display of fruit, in glass	$10.
Mrs. W. V. Miller	Sacramento	Best six jars of red currant jelly	$5.
Mrs. W. V. Miller	Sacramento	Best six jars of black currant jelly	$5.
Mrs. W. V. Miller	Sacramento	Best six jars of blackberry jelly	$5.
Mrs. H. Cronkite	Brighton	Best six jars of raspberry jelly	$5.
Mrs. W. V. Miller	Sacramento	Best six jars of quince jelly	$5.
Mrs. E. F. Aitken	Sacramento	Best six jars of blackberry jam	$5.
Mrs. H. Cronkite	Brighton	Best six jars of blackberry jam	$5.
Mrs. E. S. Hart	Florin	Best display of preserves	$10.
Mrs. H. Cronkite	Brighton	Best display of pickles	$5.
Mrs. E. S. Hart	Florin	Best display of brandied peaches	$5.
O. A. Davis	Brighton	Best ten pounds of honey, in comb	$5.
Mrs. E. S. Hart	Florin	Best strawberry jelly	$5.
O. O. Goodrich	Sacramento	Ten pounds of honey	Hon. mention.
		CLASS III.—DRIED AND PRESERVED FRUITS, NUTS, ETC.	
R. B. Blowers	Woodland	Best twenty-five pounds dried apples	$5.
R. B. Blowers	Woodland	Best twenty-five pounds dried pears	$5.
R. B. Blowers	Woodland	Best twenty-five pounds dried peaches	$5.
Mrs. E. F. Aitken	Sacramento	Best twenty-five pounds dried plums	$5.
Mrs. E. F. Aitken	Sacramento	Best twenty-five pounds dried nectarines	$5.
Mrs. M. V. Miller	Sacramento	Best twenty-five pounds dried figs	$5.
Mrs. M. V. Miller	Sacramento	Best exhibition dried berries in variety	$5.
Mrs. E. F. Aitken	Sacramento	Best half peck English walnuts	$5.
A. D. Miller	Brighton	Best soft-shelled almonds	$5.
Mrs. E. F. Aitken	Sacramento	Best half peck peanuts	$3.
W. S. Manlove	Brighton	Best sample grape syrup, not less than one gallon	$10.
R. B. Blowers	Woodland	Best twenty-five pounds raisins	$25.
R. B. Blowers	Woodland	Best twelve varieties table grapes, not less than three bunches each	$10.
J. Rutter	Florin	Best six varieties table grapes, not less than three bunches each	$5.
W. S. Manlove	Brighton	Best three varieties table grapes, not less than three bunches each	$3.

SIXTH DEPARTMENT. FRUITS—Continued.

EXHIBITORS.	Address.	Articles.	Award.
R. B. Blowers	Woodland	Best twelve varieties wine grapes	$25.
R. B. Blowers	Woodland	Best six varieties wine grapes	$20.
J. Rutter	Florin	Best three varieties wine grapes	$15.
W. S. Manlove	Brighton	Best two varieties wine grapes	$10.
R. B. Blowers	Woodland	Best one variety wine grapes	$10.
R. B. Blowers	Woodland	Best variety raisin grapes	$10.
R. B. Blowers	Woodland	Best and greatest variety of grapes	$25.
J. Rutter	Florin	Second best and greatest variety of grapes, not less than two bunches each	$15.
Robert Chalmers	Coloma	Best six bottles grape brandy (1874)	$25.
Mrs. H. Cronkite	Brighton	Best white wine	$25.
Robert Chalmers	Coloma	Best red wine	$25.
Robert Chalmers	Coloma	Best sweet wine	$25.
Robert Chalmers	Coloma	Best California port wine	$25.
Robert Chalmers	Coloma	Best California sherry wine	$25.
Brighton Distillery Brandy Company	Brighton	Four bottles brandy	Special diploma.
Mrs. W. V. Miller	Brighton	Two bottles blackberry wine	Special diploma.

SEVENTH DEPARTMENT.

FINE ARTS.

EXHIBITORS.	Address.	Articles.	Awards.
		CLASS I.—PAINTINGS, DRAWINGS, ETC.	
Benoni Irwin	San Francisco	Best specimen of portrait painting, in oil, three pieces	$25.
Norton Bush	San Francisco	Best specimen of landscape painting, in oil	$25.
John A. Todd	Sacramento	Best exhibition of photographs	$100.
W. R. Freeman	Sacramento	Best exhibition of paintings by one artist, seven pieces	$100.
Norton Bush	San Francisco	Best painting by any exhibitor	$50.
Mrs. J. H. Lewis	Sacramento	Best landscape painting, in water color	$25.
Mrs. J. D. Treat	San Francisco	Best transferred photographs, in oil	Spe., silver medal.
Mrs. F. G. Waterhouse	Sacramento	Flat studies from casts	Spe., silver medal.
Hamilton & Jackson	San Francisco	Colored portraits and crayons	Spe., silver medal.
Miss Kate Allmond	Sacramento	Colored photographs, twelve frames	Spe. pre., $10.
H. Borneman	Sacramento	Portraits in water colors and crayon	Spe. pre., $20.

SEVENTH DEPARTMENT. FINE ARTS—Continued.

EXHIBITORS.	Address.	Articles.	Award.
		CLASS II.	
J. C. Devine	Sacramento	Best exhibition of marble work	$50.
G. Griffith	Penryn	Best exhibition of polished California granite	$50.
Frank N. Fish	Sacramento	Best exhibition of sculpture	$25.
Frank N. Fish	Sacramento	Best display of busts in plaster	$25.
		CLASS III.—PAINTINGS BY MINORS.	
G. H. Redding	San Francisco	Best painting in oil	$20.
Fannie McClatchy	Sacramento	Best painting in water colors	$20.
Sacramento Business College	Sacramento	Specimens of penmanship	Spe., silver medal.
		CLASS IV.	
H. Eckhardt	Sacramento	Best specimen of engraving on steel	$25
H. A. Bostwick	Sacramento	For best specimen of penmanship, written by a pupil of any public school, the Sacramento Business College offered a scholarship, which will entitle the holder to instruction in the branches of a business course	Spe. pre., $75.

REPORT OF GOLD MEDAL COMMITTEE FOR 1877.

To the California State Board of Agriculture:

GENTLEMEN: We have the honor to report the result of our examination and conclusions as follows:

GOLD MEDAL—FIRST DEPARTMENT.

Awarded to D. M. Reavis, for short-horn cattle.

DR. C. GRATTAN,
G. W. COLBY, } Committee.

SECOND DEPARTMENT.

To California Carriage Manufacturing Company, for carriages and wagons.

THIRD DEPARTMENT.

To Miss Mollie Murphy & Company, for millinery.

FOURTH DEPARTMENT.

To R. Stone & Company, for harness and saddles.

FIFTH DEPARTMENT.

To F. Beersi & Company, for vegetables and garden produce.

SIXTH DEPARTMENT.

To R. B. Blowers, for green and dried fruits.

SEVENTH DEPARTMENT.

To A. P. Hill, for paintings of live stock.

W. C. CURTISS,
JOHN W. ARMSTRONG,
JOHN N. YOUNG,
R. O. CRAVENS, } Committee.

SPEED PROGRAMME—1877.

MONDAY, SEPTEMBER 17TH.

No. 1.—RUNNING.

Stake, and purse of two hundred and fifty dollars added. Dash of three-quarters of a mile; free for all two-year old fillies; fifty dollars entrance; twenty-five dollars forfeit; second horse saves entrance.

Entries.

NAME AND PEDIGREE OF HORSE.	By whom entered.	P. O. address.
Lexington Belle, by Lexington; dam, Eagless, by imported Glencoe	James B. McDonald	Marysville.
Cordelia Planet, by Planet; dam, Lillia, by imported Yorkshire	James B. McDonald	Marysville.
Brown filly, by Virgil; dam, Mary Martin	E. J. Baldwin	San Francisco.
Gray filly, by Baywood; dam, Lag	E. J. Baldwin	San Francisco.
Chestnut filly, by Planet; dam, Miranda, by Lexington	James Mee	San Francisco.
Lady Evangeline, by Leinster; dam, Tibbie Dunbar	W. L. Pritchard	Sacramento.
Mattie Moore, by imported Glen Athol; dam, Mattie Gross	W. L. Pritchard	Sacramento.
Lilly Moore, by imported Glen Athol; dam, Lilly Duke	W. L. Pritchard	Sacramento.
Carrie "C.," by Monday; dam, Annette, by Lexington	R. H. Covey	San Francisco.
Sadie, by Billy Cheatham; dam, Ruth Ryan, by Lodi	Coombs & Coghlan	San Francisco.
Haidee, by Lodi; dam, Trampolite, by Cheatham	Coombs & Coghlan	San Francisco.
Sorrel filly, by imported Glen Athol; dam, Little Miss, by imported Sovereign	R. K. Allen	Oakland.

Result.

Lexington Belle	1
Allen's sorrel colt	2
Haidee	3
Baldwin's brown colt	4
Mee's chestnut colt	5
Lady Evangeline	6

Time—1:16½.

No. 2—RUNNING.

Purse and stake—Three hundred dollars; fifty dollars entrance; twenty-five dollars, forfeit added; mile heats for three-year olds; second horse saves entrance; entries close with the Secretary July first.

Entries.

NAME AND PEDIGREE OF HORSE.	By whom entered.	P. O. address.
Bay colt, by Ironclad; dam, Viola, by imported Knight of St. George	James Watson	Smith's Ranch.
Lena Dunbar, by Leinster; dam, Tibbie Dunbar, by Bonnie Scotland	W. L. Pritchard	Sacramento.
Lizzie Atchinson, by Tom Atchinson; dam, Mary Givens, by Owen Dale	F. Depoister	Sacramento.

No. 2.—Running. *Entries*—Continued.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Brown colt, by Lodi; dam, Eva Ashton, by Ashland	Coombs & Coghlan	Napa.
Centennial Belle, by Woodburn; dam, Bonnie Belle, by Belmont	G. R. Buchanan	Sacramento.
Chesonisex, by Norfolk; dam, Nevada, by Cheatham	Theo. Winters	Winters, Yolo Co.
Rob Roy, by imported Hercules; dam, Lizzie Marshall, by Lodi	Willis Hull	Milpitas.

Result.

Lena Dunbar	1	1
Coombs & Coghlan's brown colt	2	2
James Watson's bay colt	3	3
Centennial Belle	4	dis.

Time—1:44½; 1:45½.

TUESDAY, SEPTEMBER 18TH.

No. 4—Trotting.

Purse—Three hundred dollars. Two minutes and forty seconds class; first horse, two hundred dollars; second, seventy dollars; third, thirty dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Rustic	P. J. Shafter	Olema.
Clara P.	J. C. Raymond	Alvarado.
Echora, by Echo; dam, The Young Mare	L. H. Titus	Los Angeles.
Maggie Mitchell, by Clay Pilot; dam, Mignonette, by Dr. Spaulding's Abdallah	J. W. Donathan	Los Angeles.
Gladstone; unknown	William Lewelyn	Los Angeles.
Nemo, by John Nelson; dam, unknown	C. S. Crittenden	San Francisco.
Elko	Charles D. Coward	Sacramento.
Susie	John McIntyre	San Francisco.
Tom Morgan; unknown	G. W. Trehern	Sacramento.
George McLoud, by Patchen; dam, Flora	Josiah Sessions	Alameda.
Gladiator, by George M. Patchen, Jr.; dam, Buttermilk Sal	John Wilson	Vallejo.
Clark, by Owen Dale; dam, by St. Clair	J. W. Wilson	Sacramento.
Granger, by Young Hunter; dam, unknown	L. M. Morse	Oakland.

Result.

George McLoud	1	1	2	1
Nemo	2	4	1	4
Elko	5	3	4	2
Clark	4	2	5	5
Echora	3	6	3	6
Maggie Mitchell	Dis.			
Gladstone	Dis.			
Granger	Dis.			
Rustic	Dis.			
Clara P.	Dis.			

Time—2:32; 2:33; 2:34; 2:34¼.

No. 5.—Trotting.

Purse—Six hundred dollars. For two minutes and thirty seconds class; first horse, four hundred dollars; second, one hundred and forty dollars; third, sixty dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Doty, by Challenge; dam, g. m. Emma F.	William Doty	Meridian.
Dutchman	S. D. Daniels	Chico.
E. H. Miller, by Paddy McGee; dam, the Beach mare	P. H. Brandow	Sacramento.
Pat Hunt, by Tecumseh; dam, by St. Clair	A. F. Smith	Sacramento.
Nell Crockett; unknown	William Smith	Los Angeles
Beautiful Belle, by The Moor; dam, Minnehaha, by Bald Chief; g. d. by Casius M. Clay, Jr	L. J. Rose	Los Angeles.
Cairo, by Chieftain; dam, Odd Fellow mare	Daniel McCarthy	San Francisco.
Coquette	J. F. Wilson	San Francisco.
Hayward Chief, by Billy Hayward; dam, unknown	A. C. Dietz	Oakland.
Startle, by Andrew's horse; dam, Maggie, by Thunderbolt	A. C. Marston	San José.

Result.

Pat Hunt	2	1	1	1
Startle	1	2	3	4
Doty	5	3	2	2
Coquette	6	6	4	3
Dutchman	4	4	5	5
Cairo	3	5	dis.	
Nell Crockett	Dis.			
E. H. Miller	Dis.			

Time—2:26½; 2:26½; 2:26¾; 2:26½.

No. 6.—Running.

Purse—Four hundred dollars. Dash of one mile, free for all; second horse saves entrance.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Cosmo, unknown	Jas. McM. Shafter	San Francisco.
Josie "C," by Leamington; dam, Milner's dam	L. R. Martin	Sacramento.
Madge Duke, by Bayonet; dam, Tick, by Monte	T. J. Moore	
Vanderbilt, by Norfolk; dam, Sallie Franklin	R. K. Allen	Oakland.
Mollie McCarty, by Monday; dam, Hennie Farrow	Theo. Winters	Winters, Yolo Co.

Result.

Mollie McCarty	1
Madge Duke	2
Josie "C"	3
Cosmo	4
Vanderbilt	5

Time—1:43.

WEDNESDAY, SEPTEMBER 19TH.

No. 7.—Trotting.

Purse—Seven hundred and fifty dollars. For two minutes and twenty-five seconds class: first horse, four hundred and fifty dollars; second, two hundred and twenty-five dollars; third, seventy-five dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Governor Stanford, by John Nelson; dam, the Beach mare	W. L. Pritchard	Sacramento.
George Treat, by Dave Hill; dam, Clara G.	A. F. Smith	Sacramento.
Tommy Gates, by The Moor	L. J. Rose	Los Angeles.
Dirigo	W. H. Cade	Oakland.
Confidence	Dan. Dennison	Sacramento.
Professor	D. J. Green	Oakland.

Result.

Dirigo	2	2	1	1	1
Tommy Gates	1	1	3	3	3
Governor Stanford	4	3	2	2	2
Confidence	3	4	4	4	5
George Treat	5	5	5	5	4

Time—2:29½; 2:27¼; 2:27; 2:29½; 2:29.

THURSDAY, SEPTEMBER 20TH.

No. 9.—Trotting.

Purse—Five hundred dollars. Mile heats, three in five, free for all four-year olds; first horse, three hundred and seventy-five dollars; second, seventy-five dollars; third, fifty dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Jo Hamilton, by Echo; dam, Belle Mason, by Belmont	J. W. Donathan	Los Angeles.
Brigadier, by Happy Medium; dam, Lady Turner, by Frank Pierce	James B. McDonald	Marysville.
Ida; unknown	C. Douglas	San Francisco.
Gypsy Davis, by Erwin Davis; dam, Gypsy, by St. Clair	C. S. Crittenden	San Francisco.
Bismarck; unknown	T. J. Weeks	Santa Cruz.
San Diego, by A. W. Richmond; dam, Desplaines, by Gage's Logan	M. S. Patrick	Los Angeles.

Result.

Brigadier	1	1	2	1
Gypsy Davis	2	2	1	2
Ida	3	3	3	3

Time—2:43¾; 2:40¼; 2:39¾; 2:38½

No. 10.—Running.

Purse—Seven hundred and fifty dollars. Dash of three miles, free for all; first horse, four hundred and fifty dollars; second, two hundred and twenty-five dollars; third, seventy-five dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Madge Duke, by Bayonet; dam, Tick, by Monte	T. G. Moore	Sacramento.
Pittsburg, by Pat. Malloy; dam, Evangeline, by imported Eclipse	W. L. Pritchard	Sacramento.
Avail, by Leinster; dam, Charis, by Lightning	W. L. Pritchard	Sacramento.

Result.

Madge Duke	1
Pittsburg	2
Avail	3

Time—5:44¼.

FRIDAY, SEPTEMBER 21st.

No. 11.—Running.

Stake, and purse of three hundred dollars added. Entrance, fifty dollars; forfeit, twenty-five dollars; free for all two-year olds; dash of one mile; second saves entrance.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Sorrel filly, by imported Glen Athol; dam, Little Miss, by imported Sovereign	James Ward	San Francisco.
Lexington Belle, by Lexington; dam, Eagless, by imported Glencoe	James B. McDonald	Marysville.
Cordelia Planet, by Planet; dam, Lilla, by imported Yorkshire	James B. McDonald	Marysville.
Mark L., by Monday; dam, Jennie C.	Henry Schwartz	San Francisco.
Snap, by Norfolk; dam, Jennie Hull	Willis Hall	Milpitas.
Bay filly, by imported Glenelg; dam, The Nun	E. J. Baldwin	San Francisco.
Bay filly, by imported Glenelg; dam, Regan	E. J. Baldwin	San Francisco.
Chesnut filly, by Planet; dam, Miranda, by Lexington	James Mee	San Francisco.
Lady Evangeline, by Leinster; dam, Tibbie Dunbar	W. L. Pritchard	Sacramento.
Mattie Moore, by imported Glen Athol; dam, Mattie Gross	W. L. Pritchard	Sacramento.
North Wind, by Norfolk; dam, Flora	W. L. Pritchard	Sacramento.
Pike's Peak, by Leinster; dam, Sophia Jennison	W. L. Pritchard	Sacramento.
Spring Box, by Norfolk; dam, Ada C., by Bob Johnson	Theo. Winters	Winters, Yolo Co.
Bay colt, by Norfolk; dam, Nevada, by Cheatham	Theo. Winters	Winters, Yolo Co.
Colt, by Norfolk; dam, imported Jamaica	Theo. Winters	Winters, Yolo Co.
Raven, by Monday; dam, Camilla Urso, by Lodi; grand dam, Annette, by Lexington	Henry Walsh	San Francisco.
Carrie C., by Monday; dam, Annette, by Lexington	H. R. Covey	San Francisco.
Haidee, by Lodi; dam, Trampoline, by Cheatham	Coombs & Coghlan	San Francisco.
Muldoon, by Lodi; dam, Belle Raney, by Cheatham	Coombs & Coghlan	San Francisco.

Result.

E. J. Baldwin's bay filly—dam, The Nun	1
Mark L.	2
Raven	3
Lexington Belle	4
Haidee	5
James Ward's sorrel filly	6
E. J. Baldwin's chesnut filly	7
Snap	8

Time—1:44½.

No. 12.—Trotting.

Purse—Six hundred dollars. For two minutes and twenty-seven seconds class; first horse, four hundred dollars; second, one hundred and forty dollars; third, sixty dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Nutwood, by Belmont, son of Alexander's Abdallah; dam, Miss Russell, by Pilot; second dam, by Boston	H. C. Knox	Pittsburg, Pa.
Governor Stanford, by John Nelson; dam, Beach mare	W. L. Pritchard	Sacramento.
Lou Whipple, by Whipple's Hambletonian; dam, sister to Dan Hibbard	I. N. Killip	San Francisco.
Brushy John, by Rappahannock; dam, Lady Ford	Marcey & Co.	San Francisco.
Cairo, by Chieftain; dam, Odd Fellow mare	Daniel McCarthy	San Francisco.
Sisson Girl; unknown	John Crooks	San Francisco.
Dirigo; unknown	W. H. Cade	Oakland.
Frank Ferguson; unknown	John McIntyre	San Francisco.
Sweetbriar, by Eugene Casserly; dam, unknown	George E. Jacobs	Nevada City.
Red Cross; unknown	James McCord	San Francisco.
Nellie Patchen, by Alexander; dam, by Belmont	Misner Brothers	Petaluma.

Result.

Nutwood	4	5	1	1	1
Governor Stanford	7	9	6	2	2
Dirigo	3	2	3	6	3
Lou Whipple	2	4	9	5	5
Sweetbriar	6	6	7	3	4
Nellie Patchen	8	3	4	7	6
Sisson Girl	9	8	8	4	8
Cairo	5	7	5	8	7
Frank Ferguson	1	1	2	drawn.	

Time—2:26½; 2:26; 2:26½; 2:27¼; 2:28.

No. 13.—Running.

Stake and Purse—Three hundred and fifty dollars; fifty dollars entrance, twenty-five dollars forfeit added; two-mile heats for three year olds; second horse saves entrance; entries to close with Secretary July first.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Bay colt, by Ironclad; dam, Viola, by imported Knight of St. George	James Watson	Smith's Ranch.
Mollie H., by Leinster; dam, Sophia Jennison, by Jack Malone	W. L. Pritchard	Sacramento.
Avail, by Leinster; dam, Charis, by Lightning	W. L. Pritchard	Sacramento.
Centennial Belle, by Woodburn; dam, Bonnie Belle, by Belmont	G. R. Buchanan	Oakland.
Chesonisex, by Norfolk; dam, Nevada, by Cheatham	Theo. Winters	Winters, Yolo Co.

Result.

Mollie H.	1	1
Centennial Belle	2	2
Watson's bay colt	3	Dis.

Time—3:41; 3:46½.

SATURDAY, SEPTEMBER 22d.

No. 14.—Trotting.

Purse—Eight hundred dollars; two minutes and twenty-three seconds class; first horse, five hundred dollars; second, two hundred dollars; third, one hundred dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
St. James; unknown	E. J. Baldwin	San Francisco.
Chicago; unknown	Pat. Farrell	San Francisco.
May Howard, by Paddy McGee	George E. Jacobs	Nevada City.
St. Helena; not given	H. W. Odell	Sacramento.
Defiance; not given	W. H. Jones	San Francisco.
Geo. Treat, by Dave Hill; dam, Clara G.	H. F. Smith	Sacramento.

Result.

St. James	1	1	1
May Howard	2	2	4
George Treat	3	4	2
Chicago	4	3	3

Time—2:26½; 2:28; 2:26.

No. 15.—Running.

Purse—Eight hundred dollars. Two-mile heats; free for all; first horse, five hundred dollars; second, two hundred dollars; third, one hundred dollars.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Mollie McCarty, by Monday; dam, Hennie Farrow	Theo. Winters	Winters, Yolo Co.
Rob Roy, by imported Hercules; dam, Lizzie Marshall, by Lodi	W. Hill	Milpitas.
Modoc Chief, by Specter; dam, Lady Melrose, by Young Melbourne	Caleb Dorsey	Stanislaus.

Result.

Mollie McCarty	1	1
Modoc Chief	2	2
Rob Roy	3	3

Time—3:41¼; 3:54.

No. 16.—Running.

Purse—Four hundred dollars. Mile heats; selling race; free for all. Horses entered to be sold for one thousand dollars, his entitled weight; for seven hundred and fifty dollars, seven pounds off; for five hundred dollars, fourteen pounds off; for one thousand two hundred and fifty dollars, seven pounds added; for one thousand five hundred dollars, fourteen pounds added; excess to second horse.

Entries.

Name and Pedigree of Horse.	By whom entered.	P. O. address.
Vanderbilt, by Norfolk; dam, Sallie Franklin	Dick Allen	
Jake, by Oliver Cromwell; dam, Jennie C, by Norfolk	Thomas Jones	
Ben Trueman, by Young Langford; dam, Odd Fellow	B. F. Rogers	
"3 C," by Lodi; dam, by Ashland	Nathan Coombs, Jr.	
California, by Monday; dam, Mayflower	James Mee	

Result.

Jake	5	1	1
Vanderbilt	1	2	2
"3 C"	2	3	3
Ben Trueman	3	4	4
California	4	5	5

Time—1:43½; 1:47½; 1:50½.

OPENING ADDRESS

OF

HONORABLE MARION BIGGS, PRESIDENT OF THE CALIFORNIA STATE AGRICULTURAL SOCIETY.

DELIVERED AT THE TWENTY-FOURTH ANNUAL FAIR OF THE SOCIETY, SACRAMENTO, SEPTEMBER EIGHTEENTH, EIGHTEEN HUNDRED AND SEVENTY-SEVEN.

Twenty-eight years since, in eighteen hundred and forty-nine, California commenced to cut a prominent figure in the commerce of the nation. That year the net imports of the nation amounted to one hundred and thirty-four million seven hundred and sixty-eight thousand five hundred and seventy-four dollars, and the exports of domestic products amounted to one hundred and thirty-two million six hundred and sixty-six thousand nine hundred and fifty-five dollars. Excess of imports twenty-one million one hundred and one thousand six hundred and nineteen dollars. Total amount of foreign commerce of the nation two hundred and sixty-seven million four hundred and thirty-five thousand five hundred and twenty-nine dollars. Last year the net imports of foreign goods amounted to four hundred and fifty-five million four hundred and seven thousand eight hundred and thirty-six dollars, an increase of nearly three hundred per cent., while the exports of domestic produce amounted to six hundred and forty-four million nine hundred and fifty-six thousand four hundred and six dollars, an increase of about four hundred per cent. Excess of exports over imports one hundred and eighty-nine million five hundred and forty-eight thousand five hundred and seventy dollars, which excess is greater than either the exports or imports twenty-eight years ago, showing a remarkable progress in production throughout the country. Total value of foreign commerce of the nation in the year eighteen hundred and seventy-six, one billion one hundred million three hundred and sixty-four thousand two hundred and forty-two dollars, an increase of eight hundred and thirty-two million nine hundred and twenty-nine thousand seven hundred and thirteen dollars over the foreign commerce of eighteen hundred and forty-nine. To this increase California contributed directly through its own ports, last year, one hundred and fifty million dollars, that being in round numbers the value of her direct exports and imports, and full fifty million dollars through Eastern ports; in all, two hundred million dollars. So that nearly one-fourth of the increased foreign commerce of the nation is due to California alone, while only a little over three-fourths is due to the remaining thirty-seven States and the Territories. California contributed to the commerce of the country, last year, within sixty-seven and a half millions of the entire commerce of the nation when this State began its existence. Just think of it—the foreign

commerce of this State alone now amounting to almost as much as the entire foreign commerce of the country in the year when California made its first appearance in the world of commerce. The history of the world does not produce such another remarkable and astonishing example of progress. Twenty years ago we were importing bread stuffs. Last year we exported over twenty-three million dollars worth of wheat and flour.

In eighteen hundred and sixty-six we raised only fourteen million bushels of wheat. Last year we produced thirty-two millions of bushels. We now import food which we should not import, such as hams, bacon, pickled pork, butter, and cheese.

But our exports of food in the shape of wheat, barley, canned salmon, etc., for last year, aggregated over thirty-one millions of dollars; so that, after paying a half a million of dollars for food, as articles imported, we had a surplus of thirty and a half millions of dollars worth of food to supply other people. Adding the value of wine and wool exported, last year yielded thirty-two and a half millions of dollars more than was required to feed the home population.

The market for our fruit products is rapidly extending. Our dried and canned fruits stand high in the Eastern States, also in England, and I am informed by some of our most experienced and intelligent fruit growers that there will always be a good market for all of our surplus fruit, if of a good quality, and properly prepared, because of the good reputation it has already acquired abroad. This is a fact most encouraging to our orchardists, and indicates the manner in which our foothills may be utilized, and made to contribute largely to the wealth of the State.

Our wheat production in eighteen hundred and seventy-six was over eighteen million centals, and we exported over thirteen million centals, all the product of our own State. And look at the amount of barley exported. From the best information we can obtain, there was on hand the eighteenth day of January, eighteen hundred and seventy-seven, three million six hundred thousand centals. The crop of barley was unusually large in eighteen hundred and seventy-six. Our yield for this year will fall short in some portions of the State, but, with the surplus of the last year's harvest, we will have quite a surplus for export, and with the present prices the farmers can have no grounds for complaint. While we sympathize with farmers in some portions of the State, we must congratulate farmers in other portions for the very large crops they have raised, and the fine price they have obtained for the same, as the amount received from the sale of our cereals this season will be equal if not greater than any former season; and the amount of corn raised is rapidly proving that we can produce a very fine article with proper cultivation; and as to vegetables, there is no portion of the globe which can excel us in the production of the same.

LIVE STOCK INTEREST—OUR HORSES.

Take the noble thoroughbred horse, and see what improvements have been made in the past fifteen or twenty years from our mustang that ran wild over our plains. The Clydesdale and the noble Norman, and the Percheron horse come in to take the place of the wild mustang. The farmers in them have something. They can rely on them when harnessed and hitched to a wagon or an agricultural

implement. They know that they have a domestic animal by which they can till their soil.

MULES.

I cannot recommend these valuable animals too highly, for they are far better for the rancher or farmer than the horse, where they have to depend on hired help, as they require less attention, and are less liable to disease, and can stand the heat much better.

SHORTHORNS, OR BEEF CATTLE.

We have certainly excelled any State or country in our cattle. Twenty-five years since we had nothing but the Spanish cattle here, excepting what few American cows were brought across the plains by emigrants. The raising of cattle was all done by the natives. We now challenge the world with our shorthorns. We have the finest beef catte in the world. Yes, when our neighbors, the Japs, come all the way from Japan, go to New York and examine the finest herds in the Atlantic States, they return to California and purchase their cattle and horses in this market, showing to the world that we can produce the best animals that stand on hoof. Alderneys, Jerseys, Devons, Herefords, Ayrshires, Holsteins, and Holderneys, all have their advocates for their fine quality of milk, and the fine quality of butter and cheese made from the same. They certainly stand very high in the estimation of the public of this coast, and I would advise every family to try one of those fine milch cows. One great beauty about them is they are so gentle and kind, as well as useful.

OUR WOOL.

Allow me to show the amount of wool produced in this State during the past six years:

1871—pounds	22,187,188	1874—pounds	39,356,781
1872—pounds	24,255,468	1875—pounds	43,532,323
1873—pounds	32,155,169	1876—pounds	56,550,977

The improvement in quality has kept pace with the production, and our California wools are sought after to the preference of others in the Eastern markets.

A VARIED AGRICULTURE.

The subject of a variety of agricultural production has been made the theme of discourse in addresses before Agricultural Societies of the State, and in the current agricultural literature. The varied soils and climates of California naturally suggest a variety of agricultural and horticultural productions. In her semi-tropical climate we know that semi-tropical fruits may be cultivated with profit. In our foothills and the higher altitudes of the mountain ranges the productions of the temperate zone may be grown. We have successfully introduced here a greater variety of production than may be found in the States of the Mississippi Valley. To my mind the question is, what is profitable? Every country is adapted by nature to a specific class of productions, and men are wise when they follow the suggestions of nature. California is specially adapted to the growth of

the cereals; and the largest returns to agriculture will be found in their growth. Some attempts have been made at cotton growing. Some efforts have been made to introduce the culture of tea and coffee; but these experiments, while moderately successful, have been attended by loss when compared with the results which would have been attained in the culture of cereals. I would not discourage in the slightest degree any experiment in the direction of varied agriculture; but I desire to invite your attention to the more practical phases of this subject. The chief agricultural feature of this State is, and for many years will continue to be, wheat and barley. If the lovers of progress in this field of industry complain, let them remember that profit is very largely the end and aim of activity and industry. A hundred acres of land devoted to wheat raising will yield more actual return than the same acres devoted to the raising of cotton or tea; therefore, if these acres are devoted to the latter productions, they are so devoted at an aggregate loss to the commonwealth. The exchange value of our cereals will be found to exceed the value of other products, the cultivation of which is as yet experimental. So long as we may purchase with the wheat grown upon an acre in California more cotton than would grow upon that acre, it will be wise and judicious to grow the wheat and purchase the cotton. This standard should be applied to all productions. Every acre should be devoted to the production of that commodity which will bring the largest reward to the cultivator of that acre.

I am not ignoring the value of a rotation in crops to the preservation of the fertility of soils, but I would have this principle applied only to that extent consistent with a scientific agriculture. It cannot be denied that to wring from the unwilling soil a meager product, when that soil would produce abundantly of some other product exceeding in value, is unwise. The experiment is a proceeding which, sooner or later, would impoverish the commonwealth. If, by the growing of wheat and barley, to which our soil and climate are specially adapted, we can purchase more tea, more cotton, more sugar, more rice, than might be grown upon the same area, it is wise economy to adhere to the growth of the cereals. Another advantage to us in the growth of cereals will be found in the character of the markets afforded to us by becoming large producers in one line. The large quantities of wheat produced in this State tend to organize the markets in our favor. So long as we may be depended upon to produce a large surplus of breadstuffs, we discourage that line of production in other parts of the world; transportation accommodates itself to our wants and necessities, and the markets of the world look to us for a supply. An example of this was found in the large cotton production of the Southern States. History does not afford another example of such wealth-producing power as was exhibited in the cotton product of those States. Prior to eighteen hundred and sixty-one the chief source of the world's supply of cotton was found in the Southern States. With the disorganization of the system of labor in that country, and the cessation of supply during the war, originated the growth of that staple in other countries under a stimulus which rapidly developed, until to-day comparatively a small proportion of cotton is supplied by our country.

A true economy will impel us to employ all our lands in the direction of their highest capacity for production. We have lands better adapted to grazing than to the raising of cereals. We have other lands

better adapted to the growth of fruits and vegetables. Wherever this is the case, we should follow the suggestion of nature in adopting a varied agriculture. The lesson I would convey by these considerations may be briefly summarized: The soil and climate of different countries differ. Each and all should be devoted to that product which returns the highest reward for the labor. Commerce is the handmaiden of production. It admits of the growth of every product in the climate and soil best adapted to their growth. The waving corn fields and the yellow harvest of the Northern States yield untold wealth to the farmer, because those products are interchangeable with those of the rice fields, the cotton, and the sugar plantations of the South. The acres in the temperate zone devoted to the production of tropical fruits and plants, and the acres in the tropics devoted to the growth of temperate productions, are each and all wasted acres, and the labor bestowed upon them misdirected labor. A varied agriculture will arise in California, but its development should be slow and judicious. It will come too late only if the suggestions which are found in the soil and the climate are unheeded. It will come too soon if profitable agriculture be abandoned for unprofitable experiment.

I now propose to detain you a few moments on the education of the youth of our country.

AGRICULTURAL EDUCATION.

The question of agricultural education ought to engage the attention of our Society far more earnestly than it has hitherto done. The reports from the Agricultural Societies of other States show that they are fully alive to the duty of cherishing institutions for the practical training of youth in the noble calling we, as a Society, are organized to improve. There can be no more certain way to promote the interests of agriculture than placing our children in schools where the leading object is to make intelligent farmers, and to show that farming can be made as intellectual and as agreeable as any other business.

The example of the State of Massachusetts is worthy of imitation in California. The State Agricultural Society said to the Legislature, give us a fair proportion of the income of the grant of Congress for the benefit of agriculture and the mechanic arts, and of such other funds as the State may provide for carrying out the purpose of the grant. Let us have the control of a college intended for our benefit. Do not tie us up in an unnatural marriage with some literary college, but leave us free to develop this one in direct relation to the needs of our future farmers. The Massachusetts farmers had their way—and the leading farmers of Massachusetts—the leading horticulturists were chosen as Trustees, and the result has been hundreds of skillful, educated farmers in the State. So they did in Kansas. I see in their official report they say that they will not "repeat the experiment of flying a literary kite with an agricultural tail, because, though a pleasant regential and professional amusement, and attractive to an immediate locality, there is not a cent of money in it for the industrial student, whose money pays for the kite." The report of the Michigan State Agricultural Society is very important and suggestive on this subject. "Do colleges and uni-

versities educate farmers," they ask. The answer is, "No, they educate men away from the farm."

Summary of occupations of the graduates of Michigan Agricultural College, from State Reports, eighteen hundred and seventy-six:

Farmers	42	Physicians	2
Fruit culturists	7	Lawyers	6
Engineers	4	Clergyman	1
Mechanic	1	Editors	2
Machinists	2	Students of law	7
Apiarist	1	Students of medicine	3
Druggists	4	Grocers	2
Professors and instructors in other agricultural colleges	11	Merchant	1
Teachers	13	Deceased	4
Students in special sciences	3	Total	124
Clerks, agents, etc.	8		

These statistics do not vary materially from those of other colleges strictly agricultural, as Maine, Massachusetts, Iowa, and Kansas.

Do colleges graduate farmers? No; they educate men away from the farm. Of six hundred and twenty-two graduates of Harvard in twenty-four years, whose callings were known, not one was put down as an agriculturist. Of one thousand seven hundred and seventy-two graduates of Yale in twenty years, whose occupation was known, sixty-one were farmers. Of one thousand two hundred and fifty-four at Dartmouth, not one. Of all together, less than one and one-half per cent.—[Report of Michigan State Board of Agriculture.

The result of these efforts to create a truly agricultural school appears in the fact that in place of the one and one-half per cent. of graduates going to farming, as from other colleges and universities, forty-two per cent. have gone to farming, fruit raising, and the nursery business, as their chief and only business. Diligent inquiry has failed to make it appear that the students imbibe any habits of extravagance, or of a theorizing practice, as some have feared. All the graduates stand respectably in their several callings, and not a few of them very high.—[President Abbott, before the Michigan House of Representatives.

Professor Joseph Harris, so well known as a scientific writer in the American Agriculturist, as editor of the Geneva Farmer, and as one of the best practical farmers in the State of New York, says:

When I was appointed Professor of Agriculture in Cornell University, I visited the Michigan Agricultural College for the purpose of ascertaining their method of conducting experiments. I wanted to see what they were doing, and how they did it. As yet our Agricultural Colleges had done very little for agriculture. Their work had been theoretical and had settled nothing, etc. The Michigan Agricultural College is an exception to this dark picture. It now stands at the head of all similar institutions, and is an honor to the State and the country at large. Their work has been planned with great thought; theirs are not haphazard experiments. We want truth, and this the Michigan Agricultural College gives us.

These examples might be increased, but as the point under consideration is the duty of this Agricultural Society to the agricultural education of this State, I think enough has been said to show that this duty has been neglected, and that while the income of the Congressional grant for the benefit of agriculture and the mechanic arts, now amounting to fifty-six thousand dollars per annum, is amply sufficient to give us such a working agricultural college as they have in Michigan and Massachusetts, we are ourselves to blame for being without one. It can hardly be questioned that the influence of rural surroundings is better calculated to foster a love for their pursuits than those of large commercial cities, and that the time has come when the relative importance of the agricultural interest to the State makes it desirable to establish at least one institution wholly devoted to instruction in this business. Without impugning the motives of

any of the officers of the University, either Regents or Faculty, the testimony of the latter that there are few if any students in the agricultural course, and the undeniable fact that other large and influential organizations of farmers and mechanics in our State have so repeatedly and publicly expressed their dissatisfaction at the results thus far presented, indicate that something further should be done to bring agriculture and education into a close and vital contact with each other. During the last University year two out of three hundred and five students were in the agricultural department. It would seem from the reports that the proportion has been diminishing rapidly since the occupation of the permanent site at Berkeley. Out of one hundred and twenty-eight, the total number of graduates, eleven have taken the agricultural degree; but of this number less than one-half are engaged in agricultural pursuits. As it would manifestly be hopeless, even if it were desirable, to change the direction of University education towards the leading industries, is not the inference a just one that a separate school or college, managed by agriculturists, for the training of the large numbers who must work for a living, who must maintain the habits of working men while at school, would be for our advantage? Notwithstanding that University tuition is free to the student, the cost of maintenance and the growing expensiveness of college life deter many who would resort to the rural agricultural school.

From England, France, Germany, Austria, we have evidence of the immense practical advantages of agricultural education in hundreds of colleges and rural or regional agricultural schools. There is no lack of students. There are no complaints of results. The statistics of the Agricultural College of Virginia, for the last three years, furnish the most convincing proofs of the value of a training school of practical agriculture.

ANNUAL ADDRESS

DELIVERED BEFORE THE STATE AGRICULTURAL SOCIETY, AT SACRAMENTO, ON THURSDAY EVENING, SEPTEMBER TWENTIETH, EIGHTEEN HUNDRED AND SEVENTY-SEVEN.

BY HON. N. GREENE CURTIS, OF SACRAMENTO.

Mr. President, Ladies, and Gentlemen: Since your last annual meeting another year has come and gone. Its stirring events and vicissitudes are of the past. The hopes it awakened, and the sorrows it produced, the joys and blights it brought, and the tears that it started or dried, are swept away from us forever. But we have come together for the purposes of the present and the future. It is pleasing to indulge in retrospects, but only useful as we apply them to the great duties and labors of life. It is the fiat of omnipotence that our passage through life should be made with a velocity apparently increasing in geometrical ratio. The day, the week, the month, the year, each seems but a tithe of its predecessor. Opening with the star of hope, each marks its meridian with the hand of toil, and crowns its close with the fruition of its morning dream, or with a lesson upon the uncertainty of human anticipations. The indomitable energy, the unflagging enterprise of our people, leaves little chance of hope, while our perseverance and industry secures to us a more desirable fruition than other less favored communities, and frees us from drinking of the cup of sorrow, or treading the barren waste of disappointment. We meet annually to correct the errors of the past, to merge personal views in congregated wisdom, to bury prejudice, and by the electric current of fraternal feeling to cancel space and fuse the whole body into a living mass, so that with one heart and one soul we may enter upon the duties of another year consecrated anew to the service of the State and to the happiness and prosperity of the people. Coming together with such views, and animated by the prospects of a glorious fruition, believed to be within the reach of human achievement, let us earnestly seek, as with one heart and one purpose, to devise means the best calculated to forward the grand objects of this Society. After the vicissitudes and changes of the year it is fit that we return thanks to the Supreme Ruler for the inestimable blessing so bounteously bestowed upon our beloved commonwealth. By His favor we have been protected from danger, disease, and death, and we are permitted once more to assemble in peace, happiness, and prosperity. Here, to-day, we meet to promote the happiness of each other, and to advance the interests of the State. Here, to-day, all asperities are dissolved, all distinctions are done away, geographical lines are obliterated, sectional jealousies are forgotten, political strifes and discord are hushed, and here we renew our friendships and pledge our energies to the support of the great agricultural and industrial interest, protected and fostered by

this Society. Permit me, Mr. President, to congratulate you and this Society upon the evidences everywhere displayed of the prosperous condition of the Society, and the unbounded resources of this commonwealth. The heart of every Californian wells up with joy and gladness at these evidences of our material wealth, our present prosperity, and the brilliant prospects of our future grandeur and glory.

Away out here, in the Golden State, upon the western verge of the continent, we have built our homes and erected our altars, where the sacred incense of liberty burns so brightly to-day that its brilliant glare and genial warmth are seen and felt all over the civilized world. Blessed in the enjoyment of a climate unsurpassed by any on earth; all that is grand, beautiful, and picturesque in scenery; a soil zealous, rich, and fruitful, yielding in profusion and lavish prodigality corn, wine, and oil for nourishment, refreshment, and joy; the bountiful yield of all the products of the soil; the luscious fruits of every variety; the vegetable productions, unequaled by any land on earth; the grape, the orange, the fig, the lemon, and citron grow and flourish side by side. With our great variety of climate, which enables us to cultivate all the products of the temperate and semi-tropical, and many of the tropical zones, there is a boundless future of prosperity for the agriculturist of California to look forward to, and we may well hope that our State will, at no distant day, furnish to the world, in rich profusion, wheat, rye, oats, barley, Indian corn, potatoes, buckwheat, hay, tobacco, rice, sugar, hemp, silk, flax, cotton, honey, cheese, butter, wine, and wool. Your wheat, wool, and wines already constitute important elements of wealth and prosperity, and your fruits, both fresh and dried, are constantly increasing in demand and supply, adding comfort and wealth to those engaged in this important branch of industry. The great variety and superior quality of the products of your vineyards, orchards, and farms; the grand display of your thoroughbreds, roadsters, and draft horses; the magnificent exhibition of animals, as specimens of your herds and flocks, challenge universal admiration. All these subjects, of so much interest and importance to the people, have been so eloquently and cogently presented by President Biggs, in his opening address to the Society, that he has left but little corn in the stubble for the benefit of the gleaner, and the sheaf not preserved will drift away, a grain of chaff before the wind. The inventive genius of California's mechanics and artisans is everywhere seen and appreciated, and all honor to them for their enterprise and industry, so materially contributing to the happiness and comfort of the people, and advancing the wealth and prosperity of the State. Our fair country women, co-workers with us in the development of our resources, have added to this splendid exhibition an attractive display of their handiwork, and they deserve, and should receive, the thanks of this Society for their grand display of patient toil and delicate skill in the various industries which they so happily represent.

Gentlemen of the State Agricultural Society, all the great industrial pursuits that enrich, refine, and elevate the citizen, are, in a great degree, confided to your care. Discharge the sacred duty in the future as you have in the past, and a prosperous, happy people will ever cherish your memories with pride and gratitude.

Agriculture, the highest and grandest of all industrial pursuits, is, nevertheless, dependent upon other interests and industries for success and prosperity. Agriculture, commerce, and population, consti-

tute the wealth and sovereignty of the State. Our Harbor of San Francisco, the largest and safest in the world, affords anchorage for the navies of every nation on earth. The enterprise and intelligence of our merchants, inviting trade and encouraging commerce, are now in the full enjoyment of a trade with the nations of the East—a trade that has enriched every nation that has ever possessed it. It is rapidly adding wealth to the State and to the nation, and building up our great commercial emporium down by the sea.

The rich mineral resources of the State, yet scarcely developed, remain a source of unbounded wealth, yielding up its rich treasures to the intelligent, persevering, industrious miner.

Nature, prodigal in her rich legacies, has given us grand, flowing rivers, filled with life-giving waters, flowing through vast regions of now barren and unproductive land. Under proper restrictions, with careful and honest management, this water can be utilized and distributed over millions of acres, and, by its fructifying influence, abundant crops can be raised, causing the desert to bloom as the rose. Our commonwealth, far from the civilized world, unblazed by the troubles and prejudices that control or vex it; uninfluenced by those daily occurrences which brighten or cloud its sky; rich in that which invites the intelligent, hardy, energetic, and adventurous from other lands; and among the thousands that have been scattered like grains of gold, scarce thinking that there was another and a nobler mission than gathering the shining ore, they have found homes among us, and the asperities that parted them from us, born of national prejudices, have been dissolved by our friendship, and in their new-found homes, from the fullness of their hearts, they bless us, and reverence the free and enlightened government under which we live.

Surrounded as we are by all the elements of a rich, luxurious, glorious life, many of our people are without homes and without employment. The hoarse mutterings of discontent are heard growing loud and fierce. The demand for labor and a just compensation for honest toil, the apparent conflict between capital and labor, the stagnation of trade, the derangement of the currency, our industries crippled, and the demands for money, are all questions that should demand the careful attention and serious consideration of every lover of his country. The farmer, the capitalist, the laborer, the mechanic, the merchant, and the manufacturer, are all vitally interested in the proper and harmonious solution and adjustment of these momentous questions. The causes producing this unhappy condition of affairs are numerous, and their discussion at this time would be ill-advised.

The unwise policy adopted in our public land system is now yielding its harvest of misery and want. The millions of acres of rich agricultural lands within our borders are in the hands of a few proprietors, and can only be obtained at exorbitant prices—prices beyond the reach of the poor man who desires them for agricultural purposes. These lands should have been held sacred for the benefit of the actual settler under preëmption and homestead laws, thereby enabling every farmer to own the soil that he tills, for it dignifies and ennobles his manhood, it intensifies his patriotism, and adds an interest in the welfare and prosperity of his fellow-men. It would build up a thriving, industrious husbandry all over the land, adding permanent wealth to the State, and prosperity, happiness, and plenty to the citizen. Then those out of employment and homeless in the

crowded cities would find constant work and fair compensation, or would themselves become farmers, cultivating their own soil, supporting themselves and their families, and gradually but surely accumulating wealth, and surrounding themselves with all the comforts and blessings of a refined civilization. The owners of small farms, who generally labor themselves, pay no rent, so that nearly the whole of their products remain to themselves as the reward of their labor. This class of farmers can afford to pay high wages to farm hands, because they are more than repaid by their increased products. The high wages, if land could be obtained at cheap rates, would soon enable the laborer himself to become a proprietor and a competitor in the labor market, and this competition would force the rate of wages to a high figure, for then abundant crops would warrant increase in expenditure.

Our young, happy, prosperous commonwealth, robed in republican simplicity, modest and unpretending, cherishing the arts and sciences, gradually growing in wealth, honor, and prosperity, cultivating a pure, enlightened, Christian civilization, has attained a proud position among the sister States of the American Union.

With all her elements of greatness and grandeur, her gallant sons, her lovely women, her working men, her cosy cottages, her stately mansions, her happy homes, her lovely daughters, her comely matrons, her churches, her colleges and public schools, her looms and anvils, her mechanics and artizans, her thrifty, intelligent, enterprising farmers, all speak in eloquent and thrilling tones of her present importance and her future greatness. Her swift coursers of internal trade whizzing through valley and cañon, over hill-top and mountain, rousing dreamy nature and awakening glad echoes all over the land, annihilating space and bringing us in daily intercourse with the most remote sections of the State. The vivid lightning, pinned to the iron cord, marks its fiery track along the wires, flashing intelligence from ocean to ocean, plunging through the briny waves and speaking to millions beyond the sea. Her lowing herds and bleating flocks; her vine-clad hills; her vine-yards, orchards, and her golden grain, waving in rich luxuriance to gladden the heart of the husbandman; staunch merchantmen, that skim the waves of every sea, fold their broad, white wings within the Golden Gate; the keen ring of the hammer, the roar of the forge, and the buzz of the saw, the stalwart arm of enterprise delving in the mountain side, yielding up the precious ores, rewarding the hardy sons of toil; her statesmen faithfully guarding her rights, her liberties, and her Constitution; her citizen-soldiery, ever ready to defend her honors; a fearless, independent press, the faithful sentinel on the watch-tower of liberty, ever ready to sound the alarm and to arrest aggression upon the rights and liberties of the people—all attest her glory and her enterprise, her prosperity and safety, and proclaim her the "Queen" of States, the nursery of the arts and sciences, the promoter of industries, the home of luxury and refinement, and the cornucopia of the world.

May the destiny of our beloved State still continue to be guided, guarded, and protected by an all-wise Providence, to a future, grand, glorious, sublime, and our prayer shall ever be:

Great God, we thank Thee for this home,
This bounteous birth-land of the free;
Where wanderers from a far may come
And breathe the air of liberty.

Still may her flowers untrampled spring,
Her harvest wave, her cities rise;
And yet, till time shall fold her wing,
Remain earth's loveliest paradise.

ANNUAL ADDRESS

DELIVERED BEFORE THE SONOMA AND MARIN AGRICULTURAL SOCIETY, AT PETALUMA, SEPTEMBER TWENTY-SEVENTH, EIGHTEEN HUNDRED AND SEVENTY-SEVEN.

BY MARCUS D. BORUCK, OF SAN FRANCISCO.

Mr. President, Ladies, and Gentlemen: "What do *you* know about farming?" was the question asked me by a friend who had seen the announcement that I was to have the honor of delivering the annual address before the Sonoma and Marin Agricultural Society. I reflected an instant, and answered: "As much as men in my position usually know, I believe." The question kept haunting me, however, and the reflection of an instant growing into the reflection of a day, bore such fruit of difficulties to be met, and ideas to be discussed, that I actually felt dismayed at the task I had so confidently undertaken. Your invitation had pleased me as a new toy pleases a child, but when, instead of a toy, I found I had an intricate and important piece of mechanism to handle, pleasure changed to anxiety, and there arose hesitation of moment—momentous, not momentary—whether to give or give up the address. Long before I come to "And now, in conclusion, Mr. President, and ladies, and gentlemen," you will easily have arrived at your decision whether the merits lie in my being here as a speaker rather than as a listener. Having become of a fixed mind in the matter, however, there commenced a course of general investigation, close observing, and persistent inquiry. I found, whilst I knew infinitely little on some points that should be touched upon in an agricultural address, that I knew surprisingly much on others. I found that the opportunities of elaboration were so numerous that the difficulty would be what *not* to say, rather than what I should say. I found that there were such great schemes and problems, such vitally important questions and plans, all worthy of note and notice, that there came the doubt as to whether, in touching on this and slighting that, I might not be touching on what was thoroughly antagonistic and slighting what was vitally necessary. I found that, since last studying the matter, such radical changes in the mode of agriculture had taken place that the fashion of it had changed as does the fashion of a garment; that nature had not only been tickled and taken advantage of when in generous mood, but that she had been battled with and conquered when most obstinate and unpromising. I found two Titans in your service—Irrigation and Reclamation—and that with them you were bringing about the fulfillment of prophecy, for the desert places do rejoice, and the wilderness blossoms with the rose. I found that California is looking to her farms and farmers for solid prosperity, and that amidst the trouble, noise, and sorrow caused by the breaking of

stock brokers, the squelching of rings, and the bursting of bubbles, there is growing up a firmer belief in, and truer appreciation of, the dignity of agriculture.

I can find no better text than this same one of the dignity of agriculture; and though it is quite possible I shall wonder off a little now and then, still I shall endeavor to keep strictly to the subject matter. You do not want me to tell you about cultivating beets or weeding turnips; about the latest improvements in headers or the easiest way to shell peas; about the depth at which to plant white beans or the kind of soil best fitted for alfalfa. Neither do you want the old, old story, of the watermelon vine running twenty miles over the country, or the equally valuable history of the pumpkin whose growth-power raised a barn fifteen inches. Rather it is my intention to present you with a broad, intelligent consideration of a great interest—to say something which it shall not be a waste of time for you to hear—which it shall not be a waste of time for me to speak; whilst if I can introduce a word of encouragement and hope, so much the better.

Some may think this last phrase *mal apropos* to so flourishing a community that the proffered encouragement and hope imply, if not distress, at least disconsolation. Let me explain myself before proceeding farther, and in doing so I shall use all possible delicacy. You know, then, that with very many otherwise sensible people there exists a feeling of this sort: They imagine that when a man goes into the country he sinks a little—remember these are not my words—that the heaviness of the clod clings to him; that because he gives his attention to cereals he will read no serial outside of the Turf, Field and Farm, or the Farmer's Friend; that becoming a good judge in hogs, he loses claim to being a good judge of paintings; that he can only take interest in a sunset as an indication of the next day's weather; that in fact, a man dulls to the extent of partially losing his identity. Sensible and honest though Civis may be, he has been guilty of a libel on his brother Rusticus. It—like the generality of libels—has an admixture of truth somewhere about it, but is in the main unfair and untruthful. The farmer of long ago was a stolid plodder, whose hands grew horny and gnarled as he dibbled in his potatoes and bound his wheat sheaves, whose back grew bent from swinging the scythe and looking down, who generally lagged behind in the way of news, and who was—to confess the truth—a trifle stupid and decidedly uninteresting.

But that is not the farmer of to-day. The man who now undertakes to make a living out of the cultivation of land must have the knowledge of a practised mechanician, for the use of machinery on farms is so universal that it is quite as necessary for him to know the value and place of cog, crank, bolt, and eccentric, as it was to know how to treat for the glanders. It is a proposition which, I think, you will not dispute, that the acquirement of such knowledge does not help make a man a dullard.

Elsewhere, the division and subdivision of land was formerly practised to the extent of making farms meagerly small, with every two or three acres fenced off into almost infinitesimal patches, whilst flocks and herds were numbered by the scores, or at most by the hundreds, they contained. Natural result—a contraction of ideas and expectations. Now, and here, however, you tillers of the soil are a little more expansive in your notions. It is a day's journey to

ride around the boundary fences of your estates; you have grain fields that would cover your grandfather's entire farm and those of his three neighbors; you run your furrows a mile long; you inclose half a mountain range for grazing purposes, and count your sheep and cattle by the thousands. Surely it will not be contended, in the face of these facts, that this gigantic style of work is going to "dull" a man.

Time was when the observance of the seasons was as rigid as a flag-post, and when experimenting with crops was regarded as trifling with Providence. Here in California a free and easy treatment of the months obtains. Sowing tide may be fixed by opportunity and not by the almanac, and if the barley looks unpromising and there is the chance of its not graining, the mowing-machine is sent into the field and you make *hay* whilst the sun shines. Nor does the be-spectacled and be-wigged law of custom bind you down and keep you back; because a certain style of tillage was deemed best, and a certain soil was supposed to be fitted only for raising a certain crop, used to be held (and is yet held in certain places) sufficient reason to restrain the farmer from stepping outside the customary road—but now, and here, you strike off at abrupt tangents, throw over the wooden figure of precedent, and set up the live leader of adaptability, kick down the scare-crow "What has been," and set up the potentate "What can be."

Time was, again, when a weekly jog to the nearest market town, or the occasional visit of the middleman, constituted the sole means available for the disposal of produce. It is not so now, and here. The railway flashes through the land, tapping every section of the country, or the rivers are dotted with wharves and landings, and intercouse with the markets is at once rapid and close. There is, in fact, progress everywhere, and progress never yet "dulled" a man.

As I am becoming, and intend to be throughout, slightly argumentative in this address, it will be perhaps wise to make the line of reasoning thoroughly distinct. To aid in this, bear for one minute with three words of recapitulation. I started in, then, Mr. President, to uphold the dignity of agriculture. As the best possible method of getting at the value of a proposition is that of discussion, and as discussion cannot exist without parties, I introduced on the contra side the townsman who spoke disparagingly of the countryman, and then tried to prove, by a rapid glance at the countryman's present style of life, that the townsman is wrong. If I have not succeeded, the fault lies in the poverty of my argument and not of my subject. I have a good case, ladies and gentlemen of the jury, and I want to win it.

But the actual weight of a man's opinion derogatory to the dignity of agriculture would be too trifling to merit notice were it not that its expression breeds a dangerous outgrowth. The labor market is affected. The body that should be so healthy and so willing to lay hands on the plow is sickly and shirks the job. The employment of white labor on your farms is difficult enough, the retaining of that labor is still more difficult, and you will, I know, bear me out in the statement that one of the curses of the workingman of to-day is the absurd and cowardly opinion he holds, that to be a farm-hand is to be something degraded, and is to occupy a mud-hole in the Slough of Despond!

I am not familiar with your opinions on the Chinese question, but

I *do* know that this sickly shirking offers the freest invitation to the Mongolian competitor. Your finikin white man cannot stand the burden and heat of the day levee building, and the Chinaman slides softly into the place and does stand it. Yet the finikin white man will hold a levee at a free lunch table, and levy tribute at the street corners on his working acquaintances. Remember, please, I am not so blind to facts as to include *all* white laborers under the idle head, but I am—as you are—sufficiently awake to the fact that specimens of the class are awfully numerous. It has been my constant cry to the lounging unemployed, "Go into the country and work!" The cry is caught up by superintendent, overseer, and rancher, and sent back, "Come into the country to work!" But the hard fact is that the ill-treated bummers shift their shoulders, change legs, but otherwise do not budge an inch. They are like the children in the market-place, who did not dance, though they were piped to never so wisely. Talk about strikes—strikers are not occasional in San Francisco, they are incessant; striking is not sporadic, it is an epidemic. Poor men who have not had a "meal's vittels for a fortnight," strike you for a dime about every other block. A millionaire said to me only a fortnight ago—a millionaire, by the by, who has not scrupled to work with his hands when he could find none for his head—said he, "The number of do-nothings is frightfully on the increase in San Francisco. I declare that not a day passes but I am applied to by half a dozen or half a score for relief—pecuniary relief. Men whom I thought to be well fixed, as well as professional spongers, ask for anything from twenty dollars to twenty-five cents. They are most persistent, too, and are evidently so hard-pressed that it is a question of actual existence with them."

Here steps in the strong anti-coolie man, rabid with Chinaphobia, and cries, "Give the reason, give the cause of this shameful beggary. Tell your hearers, would it exist if fair encouragement were given to white labor, and the pig-tailed, rat-eyed, cat-footed heathen choked off? Tell them if the reason stands that way or no."

Well, ladies and gentlemen, I don't believe it does. I believe cause and effect are muddled by these strong anti-coolie people, and whilst I am conscious of the possibility of disaster arising from too great an influx of outside forces, I do not hold to averting that possible disaster by injustice. I put it to you, if there is any difference between the loafer who stones the working Chinaman and the rascal who tears down his neighbor's fences to let in stray stock for fear they should come through the unmended gaps in his own. The result of honest inquiry amongst master-farmers and contractors leads to the belief that had they to depend solely upon white labor work would lag and stop. Whether it be harvesting or plowing, shearing or herding, fruit picking or making butter, the great difficulty seems to be in engaging men who will stay. If the work is a trifle hard, they get sick about lunch time, ask for fifty cents for physic, and are seen no more. Remember, again, I grant there are exceptions, but am I not right in the general phrasing of my rule?

These master-farmers and contractors say again, "We would rather employ white men than Chinese, because we believe white men do a better day's work. It is the exception for us to refuse the white man employment, and it is the exception for him to remain with us over a week. The consequence is, interruptions and set-backs, whilst the Chinese work on quietly, though slowly, month in and month out."

Again, there is a certain low grade of work which white laborers will not look at, and glancing over at your sister Counties of San Joaquin, Sacramento, and Yolo, I find that it is the impression there that had it not been for the Chinese the dykes would not have been built, and reclamation would still be in its damp, swaddling clothes!

The Chinese are objectionable in many particulars, of course; they don't go to church, and they don't support the schools; but, on the other hand, they don't hang around the bar-rooms playing pedro, and get drunk on tangle-brain and swipes. Now all this will, I am afraid, give you the idea that I am indulging in a panegyric on the Celestial; on the contrary, I would not grieve if there was not one in the State. But I am speaking thus plainly for three reasons. Reason the first is, that the prevailing tone of the city press is rather an ungenerous one. The writers dip their pens in gall, and slash away diatribes against that bugbear John Chinaman, and would have us believe he is the plague of the nation. They simply argue from one set of facts and ignore another set. You of Sonoma and Marin know that partiality for Chinese labor, to the exclusion of white labor, is not to be laid at your doors; and that the cause of so much idleness is not to be laid exclusively at the door of the Chinaman's tent. City knowledge and country knowledge are both good in their way, but they should be driven in pair and not singly. For instance, a clever editor learns that so many hundred Chinese are employed by you, and that so many hundred white men hang around the employment offices of San Francisco every day. He concludes that you are to blame for this, and forthwith calls you unpatriotic and grinding. Let this clever writer take a ride through the country and get at the reasons for Chinese employment, and his virulence will melt away as gently as a pound of butter in a hot sun.

Reason the second is, that you may rest satisfied that there are some who judge you as fairly as possible, and who appreciate the difficulty of your position.

Reason the third is, that at this public meeting, and through whatever aftermeans of publicity may be accorded these words, I embrace the opportunity of telling the white workingman plainly that he is largely responsible for the prevalence of Chinese labor, and that the sooner he is willing to buckle down to a little hard work; to toil in the fields rather than loaf in the streets; to begin as a field-hand rather than end as a receiver of alms; to be content with moderate and steady pay rather than worry for immoderate wages and drift into unsteady habits; to learn to look hopefully ahead instead of grumbling to have to rise at daybreak; so much the sooner will he get back into the place which he swears Ah Sin has usurped, but which has really been lost by abdication.

It is a favorite argument with those who turn up their noses at farm work—noses that are as a rule of the bibulous order—that it does not lead to anything better. A most mischievous mistake! It is almost invariably the initial point of a competency, if not of a fortune. But let me support assertion by facts. The Herald, of Aurora (Ill.), recently printed a list of well-to-do farmers who commenced life as farm laborers. The Herald says:

We present for the encouragement of young men the names of a number of farmers in this immediate vicinity who commenced working out at very low wages, and who have succeeded in making a living, besides laying up something for a rainy day. The names are well known

in this vicinity, and were gathered in half an hour's talk on the street, and could be multiplied many times by further search. We have purposely left out all those who have inherited any property from any source.

Then is given a list of successful farmers, from which I extract the few following cases:

Rodney McDole, of Sugar Grove, commenced work at farming at six dollars a month. Has raised a large family, and is now estimated to be worth sixty thousand dollars.

Fuller Bowdish, of Blackberry, commenced working at farming at eight dollars a month, is now about thirty-five years old, and worth twenty thousand dollars.

Ben George, of Sugar Grove, worked three years for one hundred and fifty dollars a year. At the expiration of the term he had saved three hundred dollars, and is now estimated to be worth seventy-five thousand dollars, at the age of fifty-one.

P. Young worked the first three years of his majority for ten dollars per month, and is now estimated worth from fifty thousand dollars to seventy-five thousand dollars. His brother Frank commenced in the same way, and is worth a like amount.

Daniel Myers, of Big Rock, worked one year at farming for ten dollars a month, saved one hundred dollars out of his wages, and started on his own hook. Is now fifty-three years old, and worth fifty thousand dollars.

David Annis, of Kaneville, father of our present City Judge, commenced his farming career in this country by working for Rodney McDole at haying for seventy-five cents a day. He strove for independence by getting McDole to trust him for a yoke of oxen, when he went to farming on his own hook. He has now over two thousand acres of land, and is estimated to be worth from one hundred and fifty thousand dollars to two hundred thousand dollars, at the age of sixty-four years.

William P. West, of our city, worked on a railroad until he had saved one thousand dollars, when he struck out West and went to farming, and is now worth from one hundred thousand dollars to one hundred and twenty-five thousand dollars.

James Eckles, of Bristol, came here twenty years ago without a cent, worked for farm wages, soon commenced on his own hook, and is now thought to be worth from fifty thousand dollars to seventy-five thousand dollars.

Now, to be sure, these are examples of success in life away over in Illinois; but, Mr. President, the principle holds good here in California; the principle holds good here in Sonoma and Marin Counties, and I will stake the reputation of this State for big vegetables that you could furnish me with fifty similar cases, verified by your personal experience.

Then the small amount of wages offered farm hands startles half the unemployed into inactive disgust. Twenty-five or thirty dollars a month for driving a team, twenty-five or thirty dollars a month for slogging away from "early morn to dewy eve" do not seem very much, it is true, but it must be remembered that this wages is outside of board and lodging. It is, indeed, so much money to be saved, or wasted, according to the character of the recipient. I know it needs patience, grit, and self-denial to cut loose from city associations, and pass through the hard noviciate of devotedness to Ceres and Pomona; but once the break is made, and the service has become familiar, there is a steady future of quiet content to be counted on. It is not a vague theory, an easily made but unsubstantial promise, that fortune lies in the furrow. With a few acres out of the millions that lie around a pushing man can with industry raise enough to support himself and family, and each year add to his producing capacity until he finally secures a sufficiency. Agriculture may be hard to woo, but she has this superiority over some of her sex—there is no danger of her going back on one as soon as she finds he is hand and heart her own. She does not refuse a man because he comes a-courting in coarse clothes, and does not shrink from the caress of a sun-browned hand. Only she requires constancy, and when that is assured, see how she favors her suitor; from an exacting mistress she changes placidly into a willing slave; her fellowship is helpfully

companionable; she brings health to those who embrace her, whilst I have only to look about me to see how justified I am in upholding her dignity—the dignity of agriculture!

Coöperation is needed. Let each take a hand in helping each along. Let husbands and fathers make it as easy as possible for their wives, and as pleasant as possible for their children. As soon as some little comfort can be allowed, don't play the niggard about getting it. As soon as the daily routine of house-work can be lightened, get help willingly. It has been up-hill climbing for sometime, now take advantage of every level piece and fair bank you come to.

Let the children do all they can to make it as easy and as pleasant as possible for the old people. Remember how they have striven to get the means of education and livelihood for you who are to come after. It will be but little recompense for struggling, and nipping, that you should do what lies in your power to smooth the way before them, so that the tired hands may rest, the feeble limbs be sustained, and the faded eyes may see that "at eventide there will be light."

And now, in conclusion, Mr. President, and ladies, and gentlemen, I am aware that in this address I have strayed far from the beaten track trodden in by those who step on the platform before an agricultural society. I have not charmed you with the full statistical reports last issued by the Assessors of Sonoma and Marin Counties, nor shall I leave you happy in the possession of choice information respecting the number of bushels harvested on the wheat fields of Connecticut. I have not assayed an essay on irrigation, nor have I endeavored to solve the Chinese problem. I have somehow forgotten to instruct you on reclamation, and have not congratulated you on your crops. Instead of adopting this regular and sensible course, I have taken a text and preached you a sort of lay sermon. If I have been a trifle serious at times, it is because I felt seriously, and though I have not invoked the American eagle nor cried eureka, the character of my subject would excuse a little tall talk.

I take it that the dignity of agriculture is quite as noble a theme as the election of a Supervisor, and I have heard some burning oratory spring into existence during the struggle between Mr. Green and Mr. Jones for the Supervisorship of the First Ward. I question, indeed, if I shall indulge in anything approaching a peroration full of sound and climax. No, I would rather say something which shall be full of cheer and reasonably worth remembering. You are living lives that are not empty ones; cultivating waste lands and making the untouched earth fruitful is noble work. You are the thews and sinews of a nation's existence. You are living lives that place you on an equal standing with those who form the other pillars of the country's importance—commerce and manufacture. With a thriving agricultural community there is no fear of America's decadence. You are living lives that have in them the charms of quietness and peace. No turmoil of fevered stock-gambling hurts your ears, no chicanery in business warps your faith in your fellow-men. The years flow tranquilly along, marked only by the gently changing visits of the seasons. God's sun shines down on you more than half the year, and feeling his beneficent influence, there is no need for you to turn elsewhere for unstable doctrines preached by wrangling, narrow sects. Seed time and harvest, summer and winter, are too pregnant with teachings to suffer any ignoring the great creative power.

You are living lives that are dignified. You can look about on broad acres and feel your face glow with the pride of possession. You can remember what barrenness once existed where these fertile fields now lie, and know that to your industry and perseverance the change is due, and whilst you can point out this and that great improvement and say boldly, yet reverentially, "I did it,"—what further need is there for me to dwell on the dignity of agriculture.

And now there is another point I want to touch briefly upon—a point which presents quite as grave aspects as does that involved in the labor question. I see I am speaking to two generations, and it is from the younger that I would ask a little attention. It seems an instinct of nature that young birds should leave the parent nest; but all instincts cannot be classed as eminently desirable. This one needs modification. If the old home is so overcrowded that there is no room to grow; so mismanaged that there is no chance of setting it right; or so uncomfortable that any change would be for the better, then striking out for themselves is the best and only course of action for the children.

Immigration, like death and marriage, makes great changes amongst us, and is mighty in its effects on the smooth working of the world's machinery. Action and movement are necessary, or we shall have rust and mildew. But regular action is needed, too, or we shall have confusion and jumble; and of the two I question whether it would not be better to let an engine rust rather than turn it adrift to run amuck on a crowded line, and to let a pool lie under a green mantle rather than have its waters caught up in the wild arms of a destructive whirlwind.

Now, the pith of the whole matter is this: Boys, don't be in a hurry to leave your fathers' homesteads.

The reasons that actuated your parents in moving away from home cannot be applied to you. It was their duty to found a new country; it is yours to build it up. They have set up roofs for you; now set up others of the same pattern, or, if you like, improve on the original to the best of your ability, always being sure that your ability is ahead of your fathers'. The old people have made a fortune on the ground where you were brought up or born; try to show you value the honest getting of that fortune by following in their footsteps; that is, follow them as closely as needs be at first, and then stride on with seven-league boots, only keeping the same direction.

The direction I advise you against is that of drifting townwards. Steer clear of the quicksands and shoals of city life; be content to look at the stretch of blue sky that lies over the open fields, rather than craning your neck to get a glimpse of it between two rows of houses. It is hard to say that the ambition to become a lawyer or a doctor is not a laudable one, and God forbid that I should advocate the total repression of such aims. Just as I spoke of certain instincts needing modification, however, so I believe certain aims need it. Study the law of supply and demand. Take a look at the hosts of struggling doctors without practice, and lawyers without fees, that swell the city's census returns, and don't be over-confident that you have better chances of success than they. I can tell you, young men, that with half the City of San Francisco sick, and the other half engaged in litigation, the legal lights and medicos of the city would not find their hands full. How in this world of pleading and pills they ever manage to get along as it is passes me. You will not be

filling a gap, then, by increasing the ranks of these struggling members of two honorable professions, and you will have to be as sharp and smooth as a needle to wedge your way into a firm place.

"There are the avenues of trade," you will say; "surely, they are available." Certainly they are, and in no place are they more available than exactly where you live. As a matter of course, every farmer is interested in the markets, and the chances of a good or bad trade year. What better business can there be than that of the agriculturist? It strikes me that it is just as honorable and just as responsible to be a producer as it is to be a buyer of wheat; to be a wine maker as a wine merchant; to be a fruit grower as a fruit dealer; to keep a dairy ranch as to be a butter-man. You have energy and tact. Well, so much the better; they are qualities that do not waste their sweetnees on the rancho's air. No farmer has ever been ruined because he happened to be a cute hand at a bargain, whilst, as to the respectability of the two positions, do you not know that glad as you are to welcome and entertain the city merchant who visits you, he is no less anxious to show his esteem of the supplier. I tell you, boys, we city folk have a habit of looking on you young farmers as the solid men of the State. Let me tell you, too, the difference between making a fortune in the counting-house and one in the field. The first is won at greater wear and tear of the brain and body, and goes the more quickly.

Fortune lies in the furrow, and having put your hand to the plow, do not turn back and look longingly at the city's smoke, or the chances are that you will, like those who toil there, come to grief on your shares.

Fortune lies in the furrow; only here the furrows lie on our common mother's face, whilst back there they are deeply marked on the face of the tired money-getter.

Fortune lies in the furrow. Aye, and health lies there, too. With the great blessing of independence, and that greater one of a sound body, what can you wish for more? Ask the anxious, prematurely aged millionaire which he values most, his present bank account, or his past good digestion?

Fortune lies in the furrow, and though there may be an occasional bad season, bankrupt farmers are as rare as the four-leaved clover.

I know there is the probability of this advice being taken in much the same spirit that the stage-struck youth takes the advice of the honest manager who tries to dissuade him from making his "first appearance on any stage." At any rate, the advice is well meant, and it is not with good advice that a certain place is paved.

Understand me well, please. I would not have you imagine that I am in favor of belittling your sphere of labor; to the contrary, I should be, if I drew flattering pictures of city life, and so induced you to become a unit in a struggling crowd. The country is great and free, and there is room in it for you to reach out and stretch to your heart's content. Besides, there is the chance of your doing so much better. Instead of making one of a town, you can make a town. How often has it happened in this new country of ours that a farm-place is found to be a good central point of an agricultural district, warehouses are built, it becomes the polling place of a precinct, the railway flings down a branch line to tow it along, incorporation takes place, and Farmer Coulter is made Mayor of Coulterville.

Still less would I be open to the charge of advocating a lower grade of education for the country lads. Get all the schooling you can; it will not be thrown away because you prefer to be what your fathers were. Knowledge is as much power in the country as in town. You have such opportunities as your parents never dreamed of possessing. You can study agricultural chemistry in a College of Agriculture, and then as a farmer put to practical use the information gained as a collegian. The age when "new-fangled notions" were looked upon with suspicion is dead and buried, and in its place has arisen one of clear-headed belief in every branch of advancement.

There is in each family, I believe, a somebody who is known as the genius. He is a touch above the other members, has aspirations, bears about with him the promise of doing all sorts of things, is full of hope and airs, writes poetry for the newspapers, is scrupulous about his hands, and is looked upon as certain to make his mark. If any of your parents are blessed with a genius, by all means let him follow his bent, let him have his fling. I have known one or two Georges the Geniuses who were glad to come back and follow the example of Peter the Plodder.

All this is spoken in the kindest spirit, and with the best intention—the spirit of one who takes a deep interest in those who are growing up to fill the places of those who are going down hill—and the intention of earnestly assuring you that you will be acting a good part by doing all you can towards sustaining the dignity of agriculture. One reason alone, and the last, should be all potential: it is, that in electing to gain a living as your parents do or did, you honor them whilst with you, and show a spirit of reverence for their memory.

Notwithstanding my Republican faith, I am next about to transgress one of its first tenets and invade the sancity of your homes. I purpose paying a domiciliary visit, and yet, squarely opposed to your opinions as such a proceeding must be, I am in the hope that you will excuse the intrusion, and extend an invitation to the intruder. The exercise of faith, and a consequent effort to get up and walk, have perhaps as much to do with the healing of a patient as the application of a magic ointment, and so I might uphold the comfort and dignity of country life with every art of argument and persuasion at my command, with but one tithe the effect caused by faith in its dignity and comfort on your part, and a consequent effort to promote the one and uphold the other. I have spoken to the laborer, to the sons, and now I have a word or two for those who have the management of home in their hands. Excuse me if I question whether there is enough attention paid to the comfort of country homes. I don't mean that there is any actual neglect of the actual means of living substantially, but I am led to doubt if the many nameless aids to making home elegant, aids that cost little and are worth much, whether they are not overlooked. Don't let the walls be bare, keep a cosy parlor, have a few bright flowers around the house, let your children learn music, keep up with the spirit of the times, look out for the new novels (they're cheap enough now), encourage habits of neatness in dress, make some change of costume for dinner and evening—these are a few of the aids I mean. They exist of course in hundreds of farmers' houses, but there are hundreds where they do not. I know places where you can study a favorite breed of hogs from the front door-step, where there is no parlor, where labor is made paramount, where the children are

suffered to grow like Topsy, and where the only garden is for vegetables. To those who have nice homes and home-like surroundings I would say, keep them so or you will fail in a duty; to those who neglect these matters I would seriously say, you have failed in a duty. There is no reason in the world why the farm-house should not be as comfortable and pretty as the town-house. Don't let the stock-yard entrench on the porch—don't have the field the only topic of conversation. The city merchant leaves his business behind him when he leaves the office, and devotes his evening to social intercourse; why shouldn't the farmer do so too? It wont make him any the poorer to "wash up" when the work is done, and put on an easy coat, and listen to his daughter playing, whilst the good wife passes an hour with her needle, and the boy takes up the last number of Harper's. It doesn't follow that they have not been attending to their several duties during the day, house-keeping, cleaning, harvesting, or what not; and it is not an impossible sketch I have drawn, but the reproduction of what is happily becoming everywhere more common. Eastern people, when they first come here, have nearly always something to say about the model homesteads that dot Maine and Vermont, with an open comparison between those and ours that does not reflect to the overwhelming advantage of this State. They are, perhaps, given to tingeing it a little strong; but they are not entirely without excuse for the tenor of their remarks. On the other hand, you have the excuse—if it is needed—that, in a new country, to get a house is the first consideration; to deck and garnish it an afterthought. There is something in that, and we will look confidently forward to a time when rural elegance shall prevail and everything be as neat as wax. There is always a great amount of labor involved in starting too; and work, hard work, continual hard work, is not supremely calculated to induce habits of refinement. There is no heart for anything better; or, worse still, there is no time for it. You men, or rather let me say, we men, are prone to think the heaviest part of the yoke lies on our shoulders. Bread-winning is difficult all around, and the helpmeet has her share of collar-work. I look to you, ladies, for the indorsement of these lines on

THE FARMER'S WIFE.

Up with the birds in the early morning—
The dew-drop glows like a precious gem;
Beautiful tints in the skies are dawning,
But she's never a moment to look at them.
The men are wanting their breakfast early;
She must not linger, she must not wait;
For words that are sharp and looks that are surly,
Are what men give when meals are late.

To glorious color the clouds are turning,
If she would but look over hills and trees;
But here are the dishes, and here is the churning—
Those things always must yield to these.
The world is filled with the wine of beauty,
If she could but pause and drink it in;
But pleasure, she says, must wait for duty—
Neglected work is committed sin.

The day grows hot and her hands grow weary;
Oh, for an hour to cool her head,
Out with the birds and the winds so cheery!
But she must get dinner and bake the bread.

The busy men in the hay-field working,
If they saw her sitting with idle hand,
Would think her lazy, and call it shirking,
And she never could make them understand.

They do not know that the heart within her
Hungers for beauty and things sublime;
They only know that they want their dinner—
Plenty of it—and just "on time."
And after the sweeping and churning and baking,
And dinner dishes are all put by,
She sits and sews, though her head is aching,
Till time for supper and "chores" draws nigh.

Her boys at school must look like others,
She says, as she patches their frocks and hose;
For the world is quick to censure mothers,
For the least neglect of children's clothes.
Her husband comes from the field of labor;
He gives no praise to the weary wife;
She's done no more than has her neighbor;
'Tis the lot of all in country life.

But after the strife and weary tussle
With life is done, and she lies at rest,
The nation's brain and heart and muscle—
Her sons and daughters—shall call her blest:
And I think the sweetest joy of heaven,
The rarest bliss of eternal life,
And the fairest crown of all will be given
Unto the way-worn farmer's wife.

ANNUAL MEETING.

The State Agricultural Society held its annual meeting at the pavilion, Sacramento, on Wednesday, January twenty-third, eighteen hundred and seventy-eight. A lively interest was manifested, and the attendance was large. At noon, both Houses of the Legislature adjourned to enable the members who desired to attend the meeting.

President Major Marion Biggs called the meeting to order at three o'clock P. M., and submitted the annual report of the Directors, which was read (by request) by M. D. Boruck, Esq., of San Francisco.

The Secretary's financial report, embracing the entire financial transactions for the year, was then submitted.

On motion, the reading of the report was omitted, and it was ordered referred to a committee, consisting of W. R. Cantwell, E. Greer, and T. M. Lindley, with instructions to examine it and report to the Directors.

ELECTION.

Major Biggs announced that nominations for President were in order.

Hon. Creed Haymond, of Sacramento, referred to the past services of Marcus D. Boruck as a Director, and nominated him for President of the Society.

On motion, nominations were closed, and the Secretary instructed to cast the vote of the Society for Mr. Boruck.

Mr. L. A. Upson, Secretary of the meeting, then cast the vote, and Mr. Boruck was declared elected amidst applause.

On motion, the thanks of the Society were voted to Major Marion Biggs, the retiring President, for the services rendered the Society by him during his term of office.

Mr. Boruck then announced that the terms of Messrs. Johnson, Hamilton, and Green had expired as Directors, and the election of their successors was next in order.

Colonel Younger nominated Chris. Green, of Sacramento.

Mr. Johnson nominated Daniel Flint, of Sacramento.

Mr. Colby nominated Albert Gallatin, of Sacramento.

J. J. Green nominated L. J. Rose, of Los Angeles.

J. O. Goodwin nominated George Gridley, of Butte County.

D. W. Welty nominated G. W. Colby, of Butte County.

On motion, nominations closed, and Messrs. Biggs, Carey, and Chase were appointed tellers.

Whole number of votes cast, three hundred and seventy. Necessary to a choice, one hundred and eighty-six. Of which Mr. Gallatin received two hundred and thirty-seven votes; Mr. Flint received two hundred and twenty-six votes; Mr. Colby received two hundred and six votes; Mr. Rose received one hundred and fifty-four votes; Mr. Gridley received one hundred and eighteen votes; Mr. Green received one hundred and ten votes.

Messrs. Gallatin, Flint, and Colby, having received a majority of all the votes cast, were declared elected Directors of the Society for the term of three years.

On motion, L. J. Rose, of Los Angeles, was elected by acclamation a Director for the term of one year, to fill the vacancy caused by the election of M. D. Boruck to the Presidency.

On motion, the Society then adjourned.

RAINFALL FOR 1877 AND 1878.

BY SAMUEL H. GERRISH, SACRAMENTO.

September, 1877—Not a drop of rain.

October, 1877—12th, sprinkle; 21st, 0.120; 22d, 0.540; 24th, sprinkle; 25th, 0.030. Total for month, 0.690 of an inch.

November, 1877—2d, 0.075; 3d, 0.010; 4th, 0.020; 5th, 0.065; 6th, 0.010; 11th, 0.810; 14th, 0.040; 16th, 0.010; 22d, sprinkled; 23d, 0.080. Total for month, 1.120 inches.

December, 1877—12th, 0.007; 17th, 0.516; 19th, 0.004; 21st, 0.224; 22d, 0.007; 23d, 0.453; 24th, 0.021; 25th, 0.002. Total for month, 1.234 inches.

January, 1878—6th, sprinkle; 7th, 0.191; 8th, 0.044; 9th, 0.289; 10th, 0.007; 14th, 0.063; 15th, 1.362; 16th, 0.966; 18th, 0.169; 19th, 0.003; 21st, 0.106; 22d, 1.216; 23d, 0.017; 24th, 0.999; 25th, 0.012; 26th, 0.105; 27th, 0.886; 28th, 0.193; 30th, 0.767; 31st, 0.440. Total for month, 7.912 inches.

February, 1878—1st, 0.007; 4th, 0.802; 6th, 0.463; 7th, 0.136; 8th, 0.140; 10th, sprinkle; 11th, 0.765; 12th, 0.075; 13th, 0.473; 14th, 0.705; 15th, 0.007; 16th, 0.022; 17th, 0.907; 18th, 0.925; 20th, 0.549; 23d, 0.149; 24th, 0.076; 26th, 0.651; 27th, 0.266. Total for month, 7.118 inches.

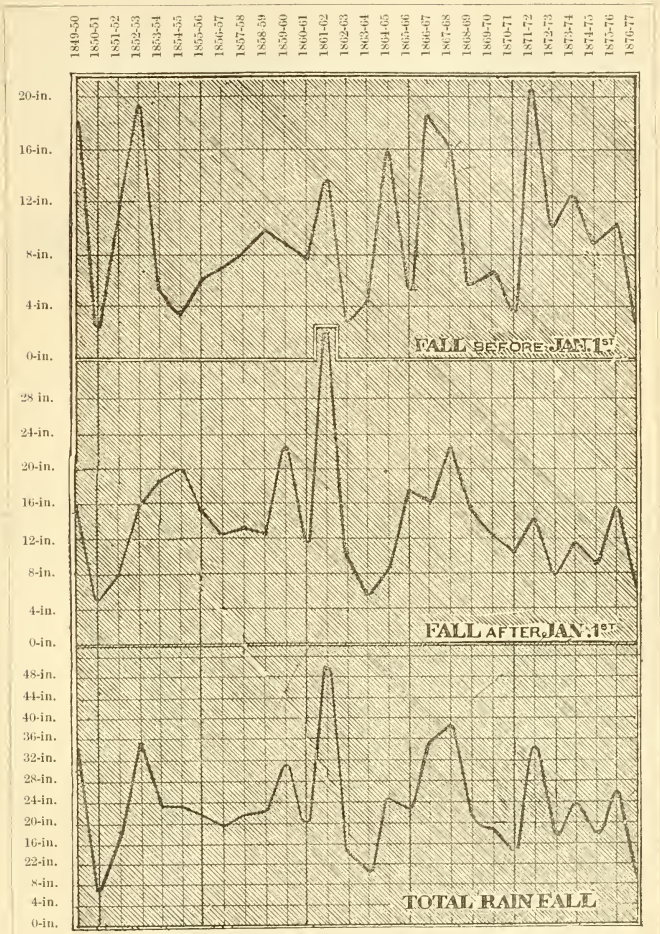
March, 1878—3d, 0.449; 4th, 0.005; 6th, 0.482; 7th, 0.020; 12th, sprinkle; 13th, 0.445; 14th, 0.076; 17th, 0.004; 18th, 0.007; 21st, 0.033; 24th, 0.507; 25th, 0.156; 26th, 0.208; 27th, 0.563; 28th, 0.104; 29th, 0.058; 30th, 0.029. Total for month, 3.166 inches.

April, 1878—14th, 0.098; 15th, 0.618; 16th, 0.005; 19th, 0.357; 21st, 0.004. Total for month, 1.082 inches.

May, 1878—18th, sprinkle; 20th, 0.152; 21st, 0.115; 31st, 0.023. Total for month, 0.290 inches.

June, 1878—None to 13th.

RAINFALLS BEFORE AND AFTER JANUARY FIRST.



Vertical scale inversely proportional to grand totals.

We are indebted to Professor G. F. Becker, of the Department of Mining and Metallurgy at the State University, for the interesting diagram on this page, showing the relation between the amount of

rain falling before and after January first, in each year since eighteen hundred and forty-nine. The method which prevails in the plotting is described in a note from Professor Becker, which we print below. It will be noticed that heretofore an average of two-fifths of the rain of the fiscal year has fallen before January first. While this would give us a rather light total rainfall this year, if it conformed to the average, it is also shown in the diagram that wide departures from this rule have occurred in single cases heretofore, and we trust may occur this year. The study of our rainfall is a practical one, and we are under obligations to all scientific observers who give us data for pursuing it. Professor Becker's note in relation to the diagram is as follows:

MESSRS. EDITORS: To what extent the rainfall before the first day of January is proportional to that of the whole season, is a frequent subject of discussion and is a matter of great practical importance to the State. When Mr. Tennent published his valuable figures on the subject, in the Bulletin of a few nights since, it occurred to me that it would be interesting to give this relation of the partial rainfall to the total in a graphic form, and in such a manner that the general proportionality, if it existed, and the relations for each year, would be apparent at a glance.

I make the following division of the rainfall in each year:

RAINFALL IN SAN FRANCISCO.*

YEAR.	Before January 1st.	After January 1st.	Total.
1849–50	18.00	15.10	33.10
1850–51	2.30	5.10	7.40
1851–52	10.46	7.98	18.44
1852–53	19.31	15.95	35.26
1853–54	5.22	18.65	23.87
1854–55	3.72	19.96	23.68
1855–56	6.03	15.63	21.66
1856–57	7.08	12.73	19.81
1857–58	8.13	13.75	21.88
1858–59	9.78	12.44	22.22
1859–60	8.95	22.27	31.22
1860–61	7.86	11.86	19.72
1861–62	13.66	35.61	49.27
1862–63	2.90	10.72	13.62
1863–64	4.38	5.70	10.08
1864–65	15.94	8.79	24.73
1865–66	5.27	17.66	22.93
1866–67	18.62	16.30	34.92
1867–68	16.34	22.50	38.84
1868–69	5.67	15.68	21.35
1869–70	6.91	12.40	19.31
1870–71	3.80	10.30	14.10
1871–72	20.60	14.11	34.71
1872–75	10.22	7.80	18.02
1873–74	12.21	11.77	23.98
1874–75	9.01	9.39	18.40
1875–76	10.03	15.98	26.01
1876–77	3.21	6.79	10.00
Grand total	265.61	392.92	658.53
Ratio	2	to 3	to 5

*According to Tennent.

Regent Davidson, nearly five years since, plotted Mr. Tennent's figures for the purpose of discussing the periodicity of the rainfall, but not in such a manner as to bring this special relation into prominence. In the accompanying diagrams each perpendicular line represents a

winter from the year eighteen hundred and forty-nine on. The horizontal lines represent inches of rain, and the distance from the base or zero line at which each curve crosses the vertical line appropriate to any year, indicates the amount of rain which fell in San Francisco during that year. The three diagrams represent respectively the rainfall before the first of January, after the first of January, and the total rainfall. The scale of years is continuous, and is the same for all the curves; the scale representing inches, on the other hand, is different for each, and is inversely proportional to the amount of rain which has fallen during the period covered by the diagram. The consequence of this selection of scales will evidently be that if the amount of rain falling before the first of January were simply proportional to the total rainfall for the season, and if, in each year, just two-fifths of the rain came before January first, the three curves would be identical. Hence, their variation expresses exactly the limits within which this rule applies.

As your readers are interested in the weather, perhaps some of them may find this chart a convenient record of the past.

G. F. BECKER.

University of California, December 20th, 1877.

WOOL REPORT OF E. GRISAR & CO.

FOR THE YEAR 1877.

WOOL PRODUCTION.

January	540 bags.
February	338 bags.
March	8,948 bags.
April	34,386 bags.
May	30,523 bags.
June	11,924 bags.
July	3,777 bags.
August	6,674 bags.
September	14,381 bags.
October	26,679 bags.
November	14,408 bags.
December	3,182 bags.
Total	155,760 bags.
Of which there was spring wool, 90,895 bags, weighing	27,068,500 pounds.
Spring wool shipped direct from the interior	2,291,940 pounds.
Total spring production	29,360,440 pounds.
There was fall wool received, 62,865 bags, weighing	20,431,125 pounds.
Fall wool shipped direct from the interior	569,177 pounds.
Total fleece of wool	50,360,742 pounds.
Pulled wool shipped direct from San Francisco	2,750,000 pounds.
Total production of California	53,110,740 pounds.
On hand December 31st, 1877, about	3,500,000 pounds.
Received from Oregon, 16,417 bags	4,929,675 pounds.
Foreign wool received, 2,047 bales	685,100 pounds.
Grand total	62,225,515 pounds.

EXPORTS.

Domestic, foreign, pulled, and scoured:	
Per rail, inclusive of shipments from the interior	44,961,919 pounds.
Per steamer, inclusive of shipments from the coast	395,154 pounds.
Per sail	7,509,216 pounds.
Total shipments	52,866,289 pounds.
Value of exports	$9,500,000.
On hand December 31st, 1877	1,500,000 pounds.

Difference between receipts and exports has been taken by local mills.

The weights of receipts and exports are gross. The usual tare of bags received is about three pounds each; on pressed bales, shipped, fourteen to sixteen pounds each.

The difference between receipts and exports is larger than formerly, on account of the opening of several new scouring companies, which has increased the shipment of scoured wool.

During the past year the wool growing interest of California has received a very decided check, owing to the paucity of rain falling during eighteen hundred and seventy-six–eighteen hundred and seventy-seven, and the consequent failure of the grass crop, especially

throughout the middle and southern portions of the State. The mortality amongst the sheep began during the winter, and rapidly increased as the season advanced, compelling many owners to drive their flocks into the mountains, where, and during their transit to and from, large numbers were lost; others found temporary ranges in the northern parts of the State, and in Nevada, also in Arizona and New Mexico, from whence a portion may in all probability return, should the coming season prove to be favorable. These disasters have greatly diminished the wool growing capacity of the State, from which it must take some time fully to recover. The loss, however, has to some extent been counterbalanced by a large increase in the northern counties.

The receipts of spring clip show that the natural increase has been lost, and the diminished production of fall wool furnishes evidence of the great mortality amongst both sheep and lambs.

Shearing during the fall has been general, and there will probably be less long stapled wools than usual in the coming clip. The drought will have the effect of improving the quality of the wool hereafter, as naturally the poorest sheep have died, and owners in reducing their flocks have, of course, retained the best. It has also served to call attention to the advantages of green feed, as an exceptionally large number of sheep have been fed on tule lands and artificial grasses, such as alfalfa, etc., and in many cases the fall wool from those sheep has been superior, being quite free from dust, and very similar to spring wools in appearance and working properties. Of the coming clip it is too early to form any estimate, but the amount must be considerably less than last year.

The wool product of eighteen hundred and seventy-seven has been inferior to that of the preceding year, more of the wools being dusty, and the long stapled spring clips were generally in poorer condition. The unusually large proportion of short stapled, dusty wools, resembling those of the fall clip, coming on the market, may be accounted for by the scarcity of food and consequent suffering of sheep.

Fall wools, also, were generally inferior, although better than was anticipated. The falling off in the receipts from the south was very marked. The spring and fall clips of the extreme northern counties were, however, above the average, both in condition and staple.

The market has been good. Spring wools were moved readily, and until late in the season without any excitement or marked fluctuation in prices. During July the market here sympathized in the activity prevailing in other wool growing States, and prices reached a point which subsequent events have shown to be unwarranted. When fall wools began to arrive stocks were very light. Receipts were at first small, but as they increased stocks unsold became larger. As prices were lower than growers anticipated they were at first inclined to hold. At the beginning of November stocks were large, but since that time the demand has been good, and the warehouses here contain less than the amount usual at this time.

Prices during the spring were much higher than those ruling in eighteen hundred and seventy-six. Average stapled free wools opened at seventeen cents to nineteen cents, and maintained these rates during the season for good lots, and fourteen cents to fifteen cents for dusty and unsightly parcels. Southern wools ranged from fifteen cents to nineteen cents, according to staple condition and freedom from bur. Northern wools brought from twenty-six cents

to thirty-two cents, the latter price being paid for good stapled light conditioned and sightly free wools.

Rates for fall wool have been generally about the same as those ruling in eighteen hundred and seventy-six. The lower premium on gold, and latterly the reduction of freight, have rendered possible their being landed in Eastern markets at lower cost than a year since.

The receipts of Oregon wool have increased. The Eastern wools were better than heretofore, as they contained less alkali and were of finer quality. Prices ranged from twenty-six cents to twenty-nine cents. Valley wools were of the usual character—from twenty-eight cents to thirty-three cents was paid. A large amount was shipped to the East for owners account, because buyers could not be found here to take the wool at cost. On account of the wide variation in character and consequent difference in values of free wools grown in the State, we omit the tabular quotations heretofore given. Free wool from one part of the State has been sold at fifteen cents to seventeen cents, while the production of other sections has realized at the same time thirty cents to thirty-one cents.

PRODUCTION OF CALIFORNIA WOOL—TAKEN FROM THE BOOKS OF E. GRISAR & COMPANY, FROM EIGHTEEN HUNDRED AND FIFTY-FOUR TO EIGHTEEN HUNDRED AND SEVENTY-SEVEN, INCLUSIVE.

1854	175,000	Amount brought forward	41,891,305
1855	300,000	1866	8,532,047
1856	600,000	1867	10,288,600
1857	1,100,000	1868	14,232,657
1858	1,428,351	1869	15,413,970
1859	2,378,250	1870	20,072,660
1860	3,055,325	1871	22,187,188
1861	3,721,998	1872	24,255,468
1862	5,990,300	1873	32,155,169
1863	6,268,480	1874	39,356,781
1864	7,923,670	1875	43,532,223
1865	8,949,931	1876	56,550,970
		1877	53,110,742
Amount carried forward	41,891,305	Total	381,579,780

THE CHEMICAL COMPOSITION OF CALIFORNIAN WINES.

BY W. IVISON MACADAM, LECTURER ON CHEMISTY, EDINBURGH.

Until lately the principal part of the wines obtainable were those grown on the continent of Europe. Within the last few years, however, several new countries have forwarded small consignments to the British market.

For the proper growth of the wine vine, it is necessary that the climate should not be liable to rapid changes of temperature, for although a hard frost in the winter, when the sap is not ascending, does no damage but rather good to the plant, yet during the spring months the vine must not be exposed to sudden frosts, else the tender fruit branches will be liable to be frosted and their proper growth damaged or permanently destroyed. It is also necessary that the vines should not be exposed to heavy rains during the autumn months, as these deteriorate the fruit crop.

On the continent of America the State of California is particularly adapted to the growth of the vine, for although the temperature is somewhat low during winter, yet the spring, summer, and autumn months may be depended on. For the last few years much attention has been devoted in the State to the growth of the better class of wine vine, and great improvement has been made in the vineyards by the introduction from Europe of plants and graftings of the Riessling, Malvoisie, Zinfandel, Orleans, Berger, and other high class varieties. The wines manufactured are large in number and include white and red varieties, ports, champagne, etc.

Samples of port, malaga, sherry, and a special variety called "Mount Vineyard," were obtained direct from the American vineyards, and submitted to analysis, when they gave the following results:

PORT.

Specific gravity of wine	1022.96
Specific gravity of wine, *minus* alcohol	1035.03
Specific gravity of distillate	977.01
Percentage of alcohol *by weight*	15.99
Percentage of alcohol *by volume*	19.00

In One Imperial Gallon.

Total dry residue	8439.90 grains.
Total dry residue, *minus* ash	8194.90 grains.
Total ash	245.00 grains.
Grape sugar	5833.00 grains.
Fixed acid, calculated as tartaric acid	249.90 grains.
Volatile acid, calculated as acetic acid	42.00 grains.

In One Hundred Parts.

Dry residue	11.786 grains.
Dry residue, *minus* ash	11.444 grains.
Ash	0.342 grains.
Grape sugar	8.146 grains.
Fixed acid, calculated as tartaric acid	0.357 grains.
Volatile acid, calculated as acetic acid	0.060 grains.

Taste, sweet.
Color, rich.

The specific gravity of this wine is higher than is usual in the case of Portuguese ports. This is due to the large amount of grape sugar, which also greatly increases the dry residue, which is fully two per cent. above the average amount to be obtained in "natural" ports.

MALAGA.

Specific gravity of wine	1053.56
Specific gravity of wine, *minus* ash	1073.27
Specific gravity of distillate	978.66
Percentage of alcohol *by weight*	14.25
Percentage of alcohol *by volume*	17.33

In One Imperial Gallon.

Total dry residue	14249.90 grains.
Total dry residue, *minus* ash	13974.10 grains.
Total ash	275.80 grains.
Grape sugar	10769.23 grains.
Fixed acid, calculated as tartaric acid	254.80 grains.
Volatile acid, calculated as acetic acid	47.60 grains.

In One Hundred Parts.

Dry residue	19.321 grains.
Dry residue, *minus* ash	18.948 grains.
Ash	0.373 grains.
Grape sugar	14.602 grains.
Fixed acid, calculated as tartaric acid	0.364 grains.
Volatile acid, calculated as acetic acid	0.068 grains.

Taste, sweet.
Color, good.

The amount of grape sugar is very large, which increases the weight of the dry residue and specific gravity of the wine.

SHERRY.

Specific gravity of wine	993.22
Specific gravity of wine, *minus* alcohol	1114.86
Specific gravity of distillate	978.83
Percentage of alcohol *by weight*	14.60
Percentage of alcohol *by volume*	17.70

In One Imperial Gallon.

Total dry residue	2701.30 grains.
Total dry residue, *minus* ash	2536.80 grains.
Total ash	164.50 grains.
Grape sugar	1129.03 grains.
Fixed acid, calculated as tartaric acid	292.85 grains.
Volatile acid, calculated as acetic acid	26.60 grains.

In One Hundred Parts.

Dry residue	3.884 grains.
Dry residue, *minus* ash	3.648 grains.
Ash	0.236 grains.
Grape sugar	1.623 grains.
Fixed acid, calculated as tartaric acid	0.381 grains.
Volatile acid, calculated as acetic acid	0.038 grains.

Taste, dry.
Color, pale.

This analysis agrees closely with Spanish "natural" sherries.

"MOUNT VINEYARD."

Specific gravity of wine	1016.29
Specific gravity of wine, *minus* alcohol	1035.89
Specific gravity of distillate	978.98
Percentage of alcohol *by weight*	14.00
Percentage of alcohol *by volume*	17.00

In One Imperial Gallon.

Total dry residue	6679.40 grains.
Total dry residue, *minus* ash	6517.00 grains.
Total ash	162.40 grains.
Grape sugar	5185.18 grains.
Fixed acid, calculated as tartaric acid	235.20 grains.
Volatile acid, calculated as acetic acid	32.20 grains.

In One Hundred Parts.

Dry residue	9.389 grains.
Dry residue, *minus* ash	9.161 grains.
Ash	0.228 grains.
Grape sugar	7.288 grains.
Fixed acid, calculated as tartaric acid	0.336 grains.
Volatile acid, calculated as acetic acid	0.046 grains.

Taste, sweet.
Color, pale.

A large amount of grape sugar present.

These results show that the percentage of alcohol in all of the wines closely resembles the amount generally found in "natural" European varieties, and that the acid, both *fixed* and *volatile*, is below the average; that the high specific gravities of the port, malaga, and Mount Vineyard are due to the presence of considerable quantities of grape sugar, which has doubtless been added to the wine so as to suit the taste of consumers. From the same cause the dry residues obtained from those three wines is considerable. In the sherry the whole of the results point to a wine very closely allied to the Spanish varieties of "natural" sherry. The ash in all the wines is small in amount.

In taste the sherry resembles the dry class of wines, whilst the port, malaga, and Mount Vineyard are sweet to taste. The port has a rich color, whilst the sherry and Mount Vineyard are pale and bright. On account of the wines being somewhat new, they lack in a degree the bouquet of older wines, but doubtless when aged the others will be formed in larger quantities and supply what is at present wanting. They are good sound wines, and somewhat agreeable to taste.

The home consumption of these wines in the State of California is considerably above two million five hundred thousand gallons per year. The export in eighteen hundred and seventy-three was four hundred and ninety thousand five hundred and sixty-eight gallons, whilst for the first six months of eighteen hundred and seventy-seven the total amount sent out of the State was four hundred and fifty-two thousand three hundred and ninety-two gallons, thus showing a considerable increase. The most of the exported material is used on the American continent, whilst smaller amounts find their way to more distant markets. In eighteen hundred and seventy-six Great Britain received one thousand and thirty-three and a half gallons, being the first consignment, whilst Germany obtained one thousand five hundred and twenty-five gallons.

JUTE AND JUTE CULTURE.

We commend the following to the serious consideration of the cultivators of the soil in this State, believing that the climate of California and a large portion of her soil is especially calculated, and far superior to that of any other State in the American Union, for the culture and production of this important and valuable article:

THE NEW INDUSTRY OF THE SOUTH.

The subject of jute culture was brought before the meeting of the Farmers' Club, Tuesday afternoon, by a communication from Professor Waterhouse, of Washington University, St. Louis, who believes that if jute can be naturalized in the United States it is a fact of immense economic importance. Jute ranks fourth in value of all the productions of India. If it can be grown in the country at all, it ought to be second only to cotton in industrial and commercial importance. The writer urged the trial of this experiment on a large scale. Letters received from time to time giving the practical detail of actual experiments already made, strongly confirm his belief that this important staple can be added to the growths of the Southern States and Lower California.

JUTE CULTURE IN INDIA.

Before reading an interesting account of jute in India, where it has been cultivated for hundreds of years, President N. C. Ely stated that it contained the results of personal observations upon the growth of this plant, made by the Professor during a recent visit in India.

The land intended for this crop is usually broken up in the fall, thoroughly pulverized and richly manured. The seed is sown broadcast, from twenty to thirty pounds to the acre. The time for sowing varies with the conditions of soil and climate, in some localities being planted in February, March, and April, and in others as late as July. Sometimes two crops are raised to the acre, but this is found very exhaustive to the soil. After the jute has come up it is carefully thinned, and then left without much further tillage to ripen. It matures in twelve or fifteen weeks. The plant sometimes grows to a hight of twenty feet, but the average hight is ten or twelve feet, and the diameter of the butts varies from half an inch to an inch and a half. One variety, which is extensively cultivated, has a smooth white bark and wide spreading branches. The jute is cut while in flower, because the fibre is then more glossy and less woody. The seed ripens one month after flowerage, and the fibre has then become so woody as to lose much of its commercial value. After cutting, the jute is usually kept two or three days till the leaves fall off, and then it is immersed in water. The period of submersion varies, according to the temperature, etc., from three or four days to a month. The methods of steeping practised by the natives are numerous, but in all cases the action of the water is to loosen the fibrous bark from

the woody stalk. After its removal the inner bark is stripped of its rind, freed from all woody adhesions, and thoroughly washed and dried. It then readily separates in minute fibres, and is ready for market or for domestic spinning. No portion of this substance is wasted. The leaves and ashes are used for manure, the stalks for baskets and fuel, the seeds for oil and oil-cake, the roots for fuel and paper, and the silky floss, which escapes from the fibres in the process of manufacture, is wrought into hats. Until recently the Government of India has never fostered the cultivation of jute, but without its patronage this industry has, within the last half century, risen to a world-wide importance.

THE NEW INDUSTRY AT THE SOUTH.

Under the auspices of the Department of Agriculture, the experiments in growing jute have been successfully tried in a number of the Southern States. These trials have been sufficient to establish the fact that wherever in the Southern States there is a hot, damp climate, and a moist soil of sand-clay, or alluvial mould, jute can be profitably raised. Indeed, the condition of the soil and climate, and the practical test of experiments already made, have been so favorable as seriously to alarm the Government of India. The official report of an Indian commission, appointed by the State, has expressed a grave apprehension of American competition in the cultivation of jute.

According to the estimates of practical experience, Professor Waterhouse says that jute butts can be produced in the United States for three cents a pound in currency, and the fine fibre for eight cents. The average price of India butts in this country is three and four cents in gold, and the fine yarns are worth eight or ten cents a pound in gold. The difference between the cost of Indian and American jute is not, however, the only source of profit. There is a relative economy in the cultivation of this plant. According to Southern testimony it is four times as productive as cotton or flax, while at the same time it does not require one-tenth of the labor to raise it. In the manufacture of hemp and flax there is a loss of fifteen or twenty per cent. of the material, while the loss in working jute is only about nine per cent. Another promise of success in this new industry is that the labor of the South is far more intelligent than that of India, and is generally under skillful guidance. In India the best soil is usually devoted to raising jute for market, and the poorer land is left for the production of seed. In the United States, on the contrary, a portion of the best land has been reserved for seed, and the result is a signal improvement in the quality of the seed, American seed being one-sixth heavier than that of India. Then, too, the broadcast sowing of Bengal is uneven and wasteful. Our patent drills save ten to fifteen pounds of seed to the acre, do the work with far greater rapidity and equality of distribution. The efficacy of our agricultural machinery promises to neutralize the seeming advantage which India possesses in the cheapness of its manual labor.

Dr. A. S. Heath said that jute is a very successful crop in Louisiana, where the imported seed make a very strong plant, growing in some localities as thick as wheat. It can also be profitably raised in other Southern States, where wet, moist soils and a mild climate pre-

vail. It is only killed by frost. The average crop is about three thousand pounds to the acre, with one thousand pounds of seed. It is either sowed broadcast or planted in drills, and is cut with a reaper or mower, bound and sent to the decorticating and crushing mill.

While it costs less to grow jute than cotton, this gentleman thought it could never come into extensive competition with it, any more than rubber does with leather.

In Louisiana jute sown in April is cut in July; that sown in May is harvested in August, and that planted in June is cut in September, thus giving a succession of crops, which greatly facilitates labor. The last crop left till frost kills the plant is used for making paper. Of the refuse in clearing, fifty per cent. is employed for paper, and the balance for manure. The hatchel refuse is utilized in upholstery.

Nine-tenths of Manila paper is made of jute. Oilcloths, carpets, gunny-bags, burlaps, sacks, and paper also call upon this commodity. While better suited to coarser materials, jute is nevertheless employed with cotton, flax, etc., in the backings of silks, velvets, and satins to cheapen these fabrics. Jute is also largely used in making up ladies' switches, in place of human hair.

IMPORTANT INCIDENTAL ADVANTAGES.

There are also important incidental advantages in connection with the cultivation of jute, which Dr. Heath thought should not be overlooked. The vigorous and luxurious growth of the plant almost exterminates weeds from the soil in which it is sown, while the bitterness of its juice repels the attacks of insects. A cotton field surrounded by a belt of jute is effectually protected from the destructive caterpillar so much dreaded. This crop should come in rotation with other crops; and all waste materials devoted to manure should be composted with other manures and applied as usual.

A stranger present said that one of the great drawbacks to jute culture in this country is that machinery which works up flax cannot manufacture the long fibre of the jute without breaking it. It is usually parted into three lengths. To manufacture the full length of the fibre new machinery is required.

A member added that while a more humid climate is essential to the successful growth of this staple, the physical characteristics of the soil in which the plant flourishes greatly vary. It thrives with an almost equal luxuriance upon the highlands or alluvial bottoms. It will grow upon comparatively dry uplands or in flooded valleys, but it prefers a high, moist, sandy loam.

The same member explained, in answer to questions asked, that in trade "jute butts" are sections twelve to fifteen inches in length of the lower end of the plant. These coarser portions are made into heavy baling and bagging. The "fibre" is the long silk yarn which is woven into fine fabrics, and the "rejections" are parts of fibre, which, in consequence of being stained, tangled, or woody, are unfit for delicate manufactures. The rejections are generally worked up with the butts. He also stated that the superior cheapness and durability of jute are rapidly displacing flax and hemp for many purposes. In our markets jute bags are worth from one-quarter to one-half a cent per yard more than flax bags. Especially for bagging and cotton-bailing is jute fast superseding the use of other fibres.

THE CLIMATE OF CALIFORNIA.

The Society was furnished the following able and interesting paper, by the Hon. B. B. Redding, on the climate of California, being a scientific examination of the subject, and conclusions drawn from twenty-five years' observation:

The temperature of the air, course of the wind, rain, and snowfall, are taken daily at seven A. M., two P. M., and nine P. M., at eighty-three stations of the Central Pacific and Southern Pacific Railroads and their branches, extending from San Francisco to Ogden, Lathrop to Fort Yuma, San Francisco to Soledad, Sacramento to Redding, Sacramento to Williams, and Vallejo to Calistoga and Petaluma. The temperature of the water is also taken at several points, including five stations on the Sacramento and San Joaquin Rivers. In addition to the observations made by the United States Signal Service, the Coast Survey, and those made at all the military posts, we thus have three daily observations recorded at eighty-three stations on the Pacific Coast, extending through eight degrees of latitude and twelve degrees of longitude. These have been kept for the use of the companies and for the benefit of the people residing in the vicinity of the various stations. As each new station is reached in the construction of a railroad, the agent is supplied with proper instruments and the record required to be kept. On all the roads first constructed, the record has been kept for more than ten years. On the new road over the Colorado Desert, from the San Bernardino Mountains to Fort Yuma, of course the record is only for the past year. The record of these three daily observations for even fifty stations for ten years, makes an army of figures that it is almost appalling to attack; yet, when reduced, and the mean obtained, the results are of great importance, not only to the farmer, but to every citizen. As an illustration of the financial importance of these records that came within my personal observation: In eighteen hundred and sixty-nine some gentlemen made an investment of nearly fifty thousand dollars, near Summit Station, in the construction of sheds over some lakes, under which to cut ice for the San Francisco market; they found it impossible to erect any wooden structure sufficiently wide for their purpose, that would bear the weight of snow that annually falls at that point. Their structures are in ruins, and every dollar put into the enterprise (other than it gave a small army of men employment in the erection of their buildings) is lost. Could the gentlemen have consulted these records, they would have seen that the annual average rainfall at this point is more than five feet. Nearly all of this falls in the form of snow, and is equal—if the snow that falls did not become compact or melt—to a bank of snow on their lakes and the roofs of their buildings each winter of sixty feet in depth. If the farmers who have made settlements on the west side of the San Joaquin River, and have tried unsuccessfully for years to raise crops upon them without artificial irrigation, could have seen the results in the hard unyielding facts these figures disclose, they would know

that they hope in vain for rain, and also hope in defiance of the laws that control climate.

A LAW OF CLIMATE.

They live in a section of the State that is an exemplification of the truth of the law well stated by Guyot: "That when a mountain chain opposes a horizontal wind, the air is forced up along the slopes; its vapors are condensed, and water the side exposed to the wind, while, on the opposite slope, the same wind descends into the valley dry and cloudless."

The western slope of the Mount Diablo Range, in the latitude of San Francisco, receives about an annual average of twenty inches of rainfall. Ellis—in the same latitude on the eastern side of the same range—has but an annual average of nine and twenty-two one-hundredths inches. Modesto, a few miles further south, on the opposite side of the San Joaquin, has but eight and ninety-five one-hundredths inches. Still further south these averages continue to decrease, until, on the west side of Tulare Lake, the annual rainfall cannot exceed three inches. The record at this point has been kept for so short a period that the amount cannot be stated positively; but applying to this section of the State the well known laws controlling climate, it will be found in time that this estimate is not far from correct. I have thought it of interest to condense some of the results of all these observations, as they show that, considering the elements of disturbance in the facts that this State has on one side the vast Pacific Ocean, presenting a uniformly radiating and absorbing surface, and on two other sides vast tracts in the Colorado, Mohave, and Nevada Deserts, presenting rapidly radiating and absorbing surfaces, yet California is controlled by the same universal laws that control climate in other places. A statement of some of these laws, and the application of them to the records obtained of the temperature, prevailing wind, and annual rainfall, and it will be seen that until the Isthmus of Panama sinks beneath the ocean and allows the Gulf Stream to pursue its way into the Pacific, or some other great change takes place in the physical geography of the earth, the climate of any given section of this State is not exceptional, but just such as these laws show it should be. Professor Joseph Henry, in his "Contributions to Meteorology," has done so much to clear up the mystery of the winds, and has stated these laws so concisely, that it is a pleasure to quote from him. He says:

If the earth were at rest, it is obvious that the air expanded by the sun's heat at the equator would rise up and flow over, descending, as it were, an inclined plane towards the poles, where it would reach the earth's surface and flow back to the equator, and thus a perpetual circulation would be maintained. It is further evident that, since the meridians of the earth converge, all the air that rose at the equator would flow along the upper surface entirely to the poles, but the greater portion would proceed no farther north or south than latitude thirty degrees, for the surface of the earth contained between the parallel of this degree and the equator is equal to that of half of the whole hemisphere. Portions, however, on the northern hemisphere would flow on, to descend at different points further north; and of these portions some probably would reach the pole, and there sink to the surface of the earth, and from that point diverge in all directions in the form of a northerly wind.

Between the two ascending currents near the equator there would be a region of calms or variable winds. The currents which flow over towards the poles would descend with the greatest velocity at the coldest point, because there the air would be densest. Now, the earth is in rapid motion on its axis from west to east, and every particle of air, therefore, flowing from the north to the equator would partake of the motion of the place at which it started, and would reach in succession lines of latitude moving more rapidly than itself. It would therefore lag behind continually, and appear to describe on the surface of the earth a slightly curvilinear course

towards the west, and hence the northeast trades in the northern hemisphere and the southeast trades in the southern hemisphere—where the conditions are reversed—but both flowing towards the belt of greatest rarefaction. The particles of air approaching the equator will not ascend in a perpendicular direction, but will rise continually as they advance towards the west along an ascending plane, and will continue for a time their westerly motion in the northern hemisphere. After they have commenced their return towards the north, and until they arrive at parts of the earth moving more rapidly than themselves, they will gradually curve towards the east, and finally descend earthward, to become again a part of the surface trade winds from the northeast. The atoms will move westward as they ascend—first, on account of the momentum in that direction; and, second, because, as they reach a higher elevation, they will have less easterly velocity than the earth beneath. They will also be affected by another force, first pointed out by Mr. Ferrell, due to the increase of gravity which a particle of matter experiences in traveling in a direction opposite to that of the rotation of the earth. The last mentioned cause of deflection will operate in an opposite direction on atoms when they assume an easterly course.

The result of the complex conditions under which the motive power acts in such a case would be to produce a system of circuits inclined to the west, the eastern portion of which would be at the surface, and the western portion at different elevations, even to the top of the atmosphere. The greater portion of the circulation would descend to the earth within thirty degrees of the equator, giving rise to the trade winds; another portion would flow further north, and produce the southwest winds, and another portion flowing still further north would descend to the earth as a northwest wind. The air which descends in the region of the north pole would not flow directly southward, but, on account of the rotation of the earth, would turn towards the west and become a northeasterly current. It might appear, at first sight, that the north wind which descends from the polar regions would continue its course along the surface until it joined the trade winds within the tropics; but this could not be the case, on account of the much greater western velocity which this wind would acquire from the rapidly increasing rotary motion as we leave the pole. There would, therefore, be three distinct belts in each hemisphere, namely, the belt of easterly winds within the tropics; the belt of westerly, within the temperate zone; and the belt of northwesterly, at the north.

Without doubt these laws would operate uniformly if the earth were a perfectly smooth sphere, with a uniformly radiating and absorbing surface, but it is broken by mountain chains, covered by large tracts of desert, which rapidly absorb and as rapidly radiate heat; about three-fourths of its surface is water, which slowly absorbs and as slowly gives up its heat; the water of the ocean is in circulation, producing great currents, which, in this hemisphere, carry a portion of the heat of the tropics into northern latitudes, and the cold of the north into warmer latitudes. All of these causes interrupt the uniformity of the flow of the æreal current, change its temperature, and give rise, as well as direction, to local winds. The zones of tropical winds move bodily to and fro with the vertical sun northward during our summer, and southward during our winter. The belts of westerly winds in the temperate zone move north and south with these. As California is within the northern temperate zone, it is primarily to the movement as a body north and south of this belt of wind that we are indebted for our

DRY SUMMERS AND WINTER RAINS.

Where, within the tropics, the northeastern and southeastern trade winds meet is a region of calms and rains. This belt of calms and rains, as has been stated, moves northward and southward with the sun's declination. Where, within the temperate zone, the northern and northwesterly winds from the polar regions meet the westerly return trade winds, is a region of storms and rains. These belts also follow the sun's declination north and south. Applying these laws to this coast, at our midsummer the vertical sun would be on the tropic of Cancer, and in that vicinity the northeasterly and southeasterly trade winds would meet, create ascending air, consequently calms; this air, laden with moisture, would rise into cooler regions, when a portion of its moisture would be precipitated, making trop-

ical rains; this air would flow north and south towards the poles. Confining our view to that portion which would flow towards the north pole, the larger part of it must descend to the earth within thirty degrees of latitude, under the law as stated by Professor Henry; as in going north it continuously has to pass over a portion of the earth which is moving less rapidly than the portion it has left, it is deflected and becomes a southwest wind. The greater part of this upper current having descended to the earth within thirty degrees and returned to join the trade wind, the remainder would flow towards the pole, portions descending in its course at all points where the rarefaction of the air near the earth's surface would permit. These descending currents cause the local variable winds of our temperate zone, but the aggregate of all of them is the prevailing southwest return trade wind. The descending currents cannot give rain, as they only fall to the earth when they become colder than the air near the earth's surface. In falling they are constantly arriving at places of warmer temperature than those they have left; they, therefore, change to a condition of taking up moisture, rather than of parting with it. Where the great body of the descending return trade wind reaches the earth between latitudes twenty-eight degrees and thirty-five degrees must, therefore, on this coast, be comparatively a rainless region. Other lessening portions of the upper current would pass on until they met the prevailing northerly wind from the polar regions, when their temperature would be lowered and their moisture condensed and fall as rain. The conflict of this descending current with the polar wind would create storms and give rise to electrical phenomena. The prevailing northerly polar wind reaches to about latitude sixty degrees, varied by the declination of the sun.

This view of the causes of the tropical, temperate, and polar zones of prevailing winds is in accordance with the theoretical deductions of Professor Ferrell, concerning the course of atmospheric currents moving on a sphere, and appears to be confirmed by the belts of low barometer prevailing in the vicinities of the equator, and of latitude sixty degrees. The polar wind, being colder, is heavier than the return trade wind, and where they meet the tendency is for this polar wind to become a surface wind, and prevent the upper current from reaching the earth until it has been reduced to the same temperature. The operation of these general laws can be more clearly seen on this coast than on that of the Atlantic and Gulf States. There the northeast trade winds are forced into the great cauldron of the Gulf of Mexico. The Cordilleras of Central America and Mexico form a wall against their progress; they rise, turn to the north as an upper current, and return to the earth as southwest winds.

The Rocky Mountains, one great chain of which extends from the center of the continent northwesterly to the Arctic Ocean, assist in the deflection. The great prairies extend in an unbroken line in the same direction from the mouth of the Mississippi to the same frozen ocean at the mouth of the Makenzie River, in about latitude sixty-two degrees. Professor J. W. Foster, in his work on "The Physical Geography of the Mississippi Valley," states that the sources of the Mississippi River are but one thousand six hundred feet above the ocean. Professor Coffin has shown from the records in the Smithsonian Institute, in his article on the "Winds of the Northern Hemisphere," that between latitudes sixty and sixty-six degrees there

prevails a belt of easterly and northeasterly winds. These winds, coming from the Arctic Ocean, meet the great chain of the Rocky Mountains, are deflected into northwest winds and pass unobstructed along this great stretch of prairie land into the States east of the Rocky Mountains. The conflict between the northwest polar winds and the moisture-laden southwest winds from the Gulf of Mexico, gives all the Atlantic States, north of Florida, their summer rains. As far back as eighteen hundred and fifty, Professor Espy, in his second report on Meteorology to the Secretary of the Navy, without, at that time, more than suspecting the cause, reported as the result of a long series of observations, that in the northern part of the Atlantic States the winds generally, in great storms, set in from north of east and terminate from north of west, and in the southern part of the Atlantic States they set in from south of east and terminate from south of west.

The States east of the Rocky Mountains are the great battle ground on this continent of these hot and cold winds.

It is doubtful if the Atlantic trade winds ever give rain to California. That portion which passes the mountains through the valley of the Rio Grande, precipitating its moisture on the White Mountains and Black Hills of Arizona, which, by the meteorological records of the Smithsonian Institute, are shown to have an annual average of twenty inches of rain.

That these general laws may be applied to California as the cause of our climate, I will assume to follow a given portion of air along well known points on the coast. At midsummer, at noon, the sun would be vertical in Southern California, just north of Cape St. Lucas. In this vicinity this portion of air having been a part of the trade wind would have become heated and saturated with moisture. It would rise until it met colder regions, when it would part with some of its moisture; a portion would return to the earth within thirty degrees, again to join the trade winds, and another portion pass on towards the north as a part of the great upper current. Under the operation of Professor Henry's law, the greater part must return to the earth between latitude thirty degrees, and, say, latitude thirty-five degrees; the remainder would flow on towards the pole until it met the prevailing polar northwesterly winds; at these points there would be fogs and summer rains. Wherever the polar wind forced its way south of this it would condense the moisture of these descending return trade winds and give rain. This they would do until they had passed so far south that their temperature would be raised to that of the descending return trades, when, of course, no moisture could be precipitated. It is these polar winds forcing themselves among the descending return trade winds that give British Columbia, Washington Territory, and Northern Oregon their summer showers. Should they force themselves further south, they in their passage have to pass into warmer latitudes; they would, also, meet the heat of our great valleys and deserts, and become as warm as our prevailing summer wind, and therefore could not give

CALIFORNIA SUMMER RAINS.

But, from midsummer, the sun is for six months moving south, taking with him the great belts of the winds of the tropical, temperate, and polar zones, until, at our midwinter, his rays at noon are

vertical just north of the northern part of Chile, in South America. These belts, moving south with the sun during six months, the region of conflict between the polar winds and the variable winds which in summer were over British Columbia, Washington Territory, and Oregon, have now moved south over Oregon and the northern and middle parts of California. The temperature of the earth's surface and the air in contact with it, have been lowered by the withdrawal of the sun's more direct rays, and the polar winds are permitted to reach farther to the south without increasing their temperature. The region of calms and the southern limit of the variable winds have, of course, also moved south with the sun beyond the tropic of Cancer. At this season, in the Pacific, the trade wind is not usually found north of latitude thirteen degrees. When, in winter, the descending return trade wind, coming from the southwest, meets the coast south of Cape St. Lucas, it is forced by the Cordilleras and the configuration of the main coast into the Gulf of California, and is deflected into a course from the southeast, or to be more exact, as shown by the records kept by Dr. Gibbons, into a course from the south-southeast. Without doubt, the southwest return trade wind which strikes the coast of Lower California in winter, north of Cape St. Lucas, is deflected by the high mountains parallel to the shore, and also passes over our coast counties as a southeast wind. H. S. Warner, in a paper read before the American Association for the Advancement of Science at its Baltimore meeting, in eighteen hundred and fifty-eight, was the first to note the fact that the waters of the Gulf of California supply the moisture to the southeast wind that bears to us our rains. It may be objected that the Gulf of California has not sufficient area from whence could be delivered the great volume of southeast winds that at times, during our winters, flow over this State. The gulf is not the cause of this wind, but it is the channel through which it flows, and gives to it direction. When the sun is vertical on the coast of Bolivia, just north of Chile—at our midwinter—he has carried south with him the northeast trade winds, until, as has been stated, they do not prevail north of about latitude thirteen degrees. The region of calms, where the great body of the upper current returns to the earth again to join the trade winds, is, at this season, between latitudes thirteen and eighteen degrees. North of this region of calms, at this time, those portions of the upper current which pass further north, descend to the earth, under Professor Henry's law, as southwest winds. At latitude twenty degrees the west coast of Mexico projects a bold headland into the Pacific Ocean, known as Cape Corrientes. South of the cape the trend of the coast for nearly two thousand miles is east-southeast; north of this cape, the trend for more than one hundred miles, to Mazatlan, is north; from Matzalan to the head of the Gulf of California, a further distance of six hundred miles, it is north-northwest. The Sonora arm of the Cordilleras rises above the table land of Mexico at latitude twenty degrees, and runs north-northwest along the coast, nearly to the head of the Gulf of California. All of these southwest winds that strike the coast from Cape Corrientes north to Cape St. Lucas are deflected by these mountains, and forced up the gulf as south-southeast winds. The United States Coast Survey have lately completed the survey of this gulf and parts of the Mexican coast north of Cape Corrientes. When their record of observations of the course of the prevailing winds in winter, the barometric pressure and

the temperature of the air and water is published, I feel confident that it will be found that the southwest return trades prevail in winter north of Cape Corrientes, and are turned by the mountains and the coast up the Gulf of California, and so over this State as our southeast winds. It comes from this gulf warm and laden with moisture, and passes over the Colorado and Mohave Deserts. These deserts, as shown by the meteorological records of the Smithsonian Institute, have a mean winter temperature of from forty-eight to fifty-six degrees. This is not sufficiently low to precipitate its moisture, and it passes on until it meets the Sierra Nevada and Coast Range. In ascending these it rises into cooler regions, finds a mean winter temperature of forty degrees, and gives up some of its moisture. When it flows down into the southern end of the great valley of the Tulare, it meets a mean winter temperature of forty-eight degrees, which is higher than that of the mountains it has just passed. It therefore retains its moisture and passes on until it meets a cold polar wind, and has another portion of its moisture condensed in a rain-storm, or failing to meet this, passing still further north until its moisture is condensed by the prevaling low temperature of a higher latitude. It is of frequent occurrence in winter that a gentle southeast wind will blow for days, giving no rain south of the latitude of San Francisco, but cloudy weather at the northern end of the Sacramento Valley, and light showers and rains from Red Bluff to Oregon. Therefore, the northern part of the State should receive more rain than the southern, and the mountains more than the valleys. The least rain should be in the hot deserts and on those sides of valleys most sheltered by mountains from the moisture bearing winds.

THE FIRST PROPOSITION,

That the northern part of the State should receive more rain than the southern appears to be confirmed by the following exhibit of the rainfall in the Sacramento, San Joaquin, and Tulare Valleys. These, in fact, constitute one great valley; all of it has the Sierra Nevada on the east, and the Coast Range Mountains on the west. A line drawn through its center in the line of the rain-bearing wind south-southeast from Fort Reading to Sumner, would at all points be about an equal distance from the ocean, and also an equal distance from the Nevada Desert. All the stations relatively to their surroundings are therefore similarly situated, and general laws have full operation free from local disturbance. Commencing at the north end of the valley:

Stations.	Latitude.	Longitude.	Height above ocean.	Extent of series.	Annual mean of rain in inches.
Fort Reading	40° 30′	122° 05′	674 feet.	1852–1856	29.11
Red Bluff	40° 10′	122° 15′	307 feet.	1872–1877	18.41
Tehama	40°	122° 08′	222 feet.	1870–1877	16.30
Chico	39° 40′	121° 50′	193 feet.	1871–1877	21.99
Marysville	39° 21′	121° 30′	67 feet.	1871–1877	17.46
Sacramento	38° 34′	121° 28′	30 feet.	1849–1877	18.75
Stockton	37° 57′	121° 17′	23 feet.	1854–1857 } 1871–1877 }	13.23
Modesto	37° 40′	120° 55′	91 feet.	1871–1877	9.60
Merced	37° 20′	120° 26′	171 feet.	1871–1877	9.36
Borden*	36° 55′	120°	274 feet.	1875–1877	3.32
Tulare	36° 14′	119° 18′	282 feet.	1875–1877	4.83
Delano	35° 43′	119° 12′	313 feet.	1875–1877	4.03
Sumner	35° 23′	118° 58′	415 feet.	1875–1877	3.92

*Fort Miller, twenty-five miles northeast from Borden, with a greater elevation of one hundred and twenty-eight feet, from a record of nearly seven years, receives an annual average of eighteen and ninety-nine one-hundredths inches.

THE SECOND PROPOSITION,

That the mountains should receive more rain than the valleys, is also confirmed by the following exhibit, wherein have been selected successive stations on a line as nearly as possible east from San Francisco, thereby avoiding any increase of precipitation due to increase of latitude. The law as stated by Guyot, deduced from experiment and observation, is, that an elevation of three hundred and fifty feet is sufficient to diminish the mean temperature of a given place by one degree of Fahrenheit; that is to say, the effect is the same as if the place were situated seventy miles further north. Commencing near the center of the Sacramento Valley, at the lowest elevation above the sea:

Stations.	Latitude.	Longitude.	Height above the sea.	Extent of series.	Annual mean of rain in inches.
Stockton	37° 57′	121° 17′	23 feet.	1854–1857 } 1871–1877 }	13.23
Sacramento	38° 34′	121° 28′	30 feet.	1849–1877	18.75
Rocklin	38° 45′	121° 12′	249 feet.	1870–1877	17.30
Auburn	38° 52′	121° 02′	1,363 feet.	1870–1877	29.79
Colfax	39° 06′	120° 55′	2,421 feet.	1870–1877	42.72
Alta	39° 12′	120° 52′	3,612 feet.	1870–1877	47.32
Emigrant Gap	39° 18′	120° 35′	5,230 feet.	1870–1877	51.49
Cisco	39° 19′	120° 28′	5,939 feet.	1870–1877	55.32
Summit	39° 20′	120° 15′	7,017 feet.	1870–1877	58.48

THE THIRD PROPOSITION,

That the least rain should be in the deserts, is confirmed by the records kept at various stations; commencing south and proceeding north:

Stations.	Latitude.	Longitude.	Hight above the sea.	Extent of series.	Annual mean of rain in inches.
Fort Yuma	32° 44′	114° 36′	200 feet.	1851–1867 } 1869–1873 }	3.06
Fort Mohave	35° 06′	114° 35′	604 feet.	1859–1866 } 1869–1873 }	2.65
Wadsworth	39° 42′	119° 15′	4,077 feet.	1870–1877	3.21
Hot Springs	39° 51′	119° 02′	4,070 feet.	1870–1877	3.90
Brown's	40°	118° 35′	3,925 feet.	1870–1877	3.53

The Colorado and Mohave Deserts are in the zone where the great body of the descending southwest return trade winds reach the earth. It has been shown that these descending currents cannot give rain, as, in falling, they continuously arrive at regions of increasing temperature. It is, therefore, in this zone, on both sides of the equator, that almost all the great deserts of the earth are situated, and primarily to this cause is their existence due. The Mohave and Colorado Deserts are in the same latitudes north of the equator as the Deserts of Sahara and Arabia. The great desert of the interior of Australia is in the same latitude south of the equator as the Desert of Atacama, in South America.

The stations of Wadsworth, Hot Springs, and Brown's, in the above table, are in Nevada, and in the region of variable winds, and are made desert by want of rain; but better illustrate the last proposition that less rain should fall on the opposite side of the mountains to that exposed to the moisture bearing winds. For further illustration of the proposition, I have selected stations in different parts of this State and Nevada. Fort Tejon, latitude thirty-four degrees fifty-three minutes north, longitude one hundred and eighteen degrees fifty-three minutes west, on the south side of the Tehachapi Mountains, where the Sierra Nevada and Coast Range unite, forming a wall against the southeast wind, has an elevation of three thousand two hundred and forty feet. From a record of five years, it has an annual mean of nineteen and fifty-three one-hundredths inches of rain. Caliente, a station of the Southern Pacific Railroad, thirty miles northeast, elevation one thousand two hundred and ninety feet upon the north side of this range, from a record of two years, has but an annual mean of six and thirty-eight one-hundredths inches; and Sumner, thirty-one miles north of Tejon, with an elevation of four hundred and fifteen feet, receives but three and ninety-two one-hundredths inches. The Tehachapi Mountains precipitate some of the moisture from the southeast winds, and, under the law as stated by Guyot, they descend into the valley dry and cloudless.

The summit of Mount Diablo, elevation three thousand eight hundred and fifty-six feet, from a record of two years, receives an annual mean of twenty and eighty-five one-hundredths inches. Livermore,

in one of its valleys, elevation four hundred and eighty-five feet, from a record of six years, has an annual mean of thirteen and twenty-eight one-hundredths inches, while Ellis, at its northeastern base, with an elevation of seventy-six feet, from a record of six years, receives but an annual mean of nine and twenty-two one-hundredths inches. Benicia, at its northwestern base, elevation sixty-four feet, from a record of thirteen years, receives an annual mean of thirteen and seven one-hundredths inches. This increase at Benicia shows an interference with the law, which, I think, may be explained by the indraught of air into San Pablo Bay from the Bay of San Francisco, through the narrow channel, on the bank of which Benicia is situated. General Myer, Chief of the Signal Service, in his circular on the practical use of meteorological reports, says that "Wind which on the ocean would blow with a certain velocity, will have but one-half or one-third of that velocity when blowing over a hilly country." While Diablo robs Benicia of its rain, it is, in part, compensated from the currents of moisture-laden air that flow up the Straits of Carquinez, in consequence of meeting with less resistance.

The summit of the Sierra Nevada, where it is crossed by the railroad, as has been shown, receives an annual mean of fifty-eight and forty-eight one-hundredths inches. Boca, thirteen miles northeast in an air line, but one thousand four hundred and eighty-four feet below, on the eastern flank, for the same number of years, receives but an annual mean of fourteen and fifty-eight one-hundredths inches, and Reno, thirty-one miles in an air line in the same direction, and one thousand five hundred and ten feet below the summit, and nearer the eastern base of this range of mountains, receives for the same time but an annual mean of four and seventy-eight one-hundredths inches. There are two stations, one on each side of the Sierra Nevada, whose elevations above the sea are nearly the same, Alta on the southwestern side, and Brown's, on the northeastern—the first has an elevation above the sea of three thousand six hundred and twelve feet, the latter of three thousand nine hundred and twenty-five feet. Alta received, during a record of seven years, an annual mean of forty-seven and thirty-two one-hundredths inches, and Brown's, for the same period, three and fifty-three one-hundredths inches. Dr. Henry Gibbons has shown from his daily record of the climate of San Francisco that whatever course the wind may have near the surface of the earth at this place, the upper currents of air, whenever their clouds could be seen, were moving from the southwest. The records from the station at the summit of the Sierra show the same fact. It is not unfrequent that the Sacramento Valley is filled with a southeast wind—it may be giving rain—while a cloud bearing southwest wind is blowing at the summit. When this southeast wind becomes a storm, it flows up the cañons, ravines, gulches, and river courses as a southwest wind, and joins this upper current, for the general course of all the ravines and river courses of the Sierra is from the northeast to the southwest, and the wind, like other fluids, takes the course of least resistance.

It is believed that an early fall of snow in the Sierra increases the rainfall in the Sacramento Valley. There is not yet sufficient data to hazard a positive conclusion on the subject. All the moisture bearing winds pass from the valley over this snow into the great basin of Nevada; therefore, an early fall of snow, storing up a cold temperature, would probably increase the subsequent fall on the

Sierra. If it shall be found to increase the rainfall in the valley, the cause can be ascribed to the fact that the belt of snow is a store-house of cold, lowering the temperature of the adjacent air, which, by increase of weight, flows down into the valley, and lowers the temperature of the air at the lowest places in the valley. Tulare, near the shore of Tulare Lake, which is the lowest point of that portion of the valley (the town being two hundred and eighty-two feet above the sea), is at the base of the highest mountains in California. The cold air flowing down from these mountains reduces its winter temperature (December, January, February) to a mean of forty-five degrees and fifty-seven one-hundredths, while Auburn, one hundred and fifty-eight miles further north, and with one thousand and eighty-seven feet greater elevation, situated on the long spur jutting into the valley which the railroad climbs to cross the mountains, for the same months has a mean temperature of forty-six degrees and seventy one-hundredths, the mean of the winter at Tulare being more than one degree colder than at Auburn. Chico, two hundred and six miles north of Tulare, and eighty-nine feet less in elevation, has a winter climate one and a quarter degrees warmer than Tulare, its mean winter temperature being forty-six degrees and eighty-two one-hundredths. If it were not for the cold air from the mountains flowing to the lowest places in the valley, Tulare would be entitled to a winter temperature of five and a half degrees warmer than that of Auburn, two being due to decrease in latitude, and three and a half to decrease in elevation.

COAST.

The coast counties are controlled by the same general laws that govern other parts of the State. There is more rain north than south; more on the hills than in the valleys; more on the south side of hills than on their northern and eastern exposures. Their proximity to the ocean gives them a more even temperature than in the interior, making them cooler in Summer and warmer in Winter. From the sea coast to the summits of the coast range of mountains they are also subject to the influence of the Japan gulf stream. This stream, according to Professor Davidson, in the Alaska Coast Pilot—"Starting with a maximum temperature of eighty-eight degrees, sweeps across the Pacific, and about latitude forty-five to fifty degrees, in longitude one hundred and forty-eight degrees, divides. The main body stretches directly toward the coast of America, is deflected southward and eastward, and runs down the coast of Oregon and California. A branch of this current continues direct to the Alexander Archipelago, and striking the southern part of the coast, is deflected to the northward and westward. It is the warm Alaska branch which causes the high isothermal lines that exist directly on the Alaska coast."

The temperature of this Alaska branch, as observed by him in September, eighteen hundred and seventy-six, was from fifty degrees and six one-hundredths to forty-seven degrees and one one-hundredths, decreasing irregularly. The prevailing westerly winds of those latitudes, warmed by this gulf stream, take from it moisture which is condensed into fog, and precipitated in rain upon the coast when they meet its glacial mountains and the cold air and water flowing down from them. The influence of this current in producing Summer rains extends as far south as the Columbia River; the meteorological records of the Smithsonian Institute showing that

at the mouth of this river there is a mean for the Summer of six inches of rain, and an annual mean of seventy-eight inches. At Sitka, as shown by the Alaska Coast Pilot, from a record kept from eighteen hundred and forty-seven to eighteen hundred and fifty-four, and from eighteen hundred and fifty-five to eighteen hundred and sixty-four, the annual mean is eighty-two and sixty-six one-hundredths inches. For the purpose of ascertaining the effect on our climate of that branch of this gulf stream where it passes down our coast, I procured from Captain Bradbury the logs of twenty-four voyages of the Occidental and Oriental Company's steamers between San Francisco and Yokohama. These voyages were between November sixteenth, eighteen hundred and seventy-five, and December twenty-sixth, eighteen hundred and seventy-six. From these I have gathered the temperature of the air and water, taken at noon, for a distance of nine hundred miles west from San Francisco, and the temperature of the water for the same distance east from Yokohama, Yokohama and San Francisco being very nearly in the same latitude. These distances were selected on each side of the ocean, because there is no marked increase or decrease in temperature either near San Francisco or Yokohama, until these distances have been passed. There has also been gathered the temperature of the water in midocean between these two points; one series for each month at about latitude forty-two degrees and longitude one hundred and eighty degrees, and one series for each month at about latitude thirty-two degrees and longitude one hundred and eighty degrees. The steamers coming from Yokohama to San Francisco usually going north to forty-two degrees, and the steamers from San Francisco to Yokohama going south to thirty-two degrees. The mean temperature of the water for a distance of nine hundred miles east of Yokohama for the year was sixty-five degrees and forty one-hundredths. The mean of the warmest temperatures of the water for the year was sixty-five degrees and ten one-hundredths. The mean of the coldest was sixty degrees and thirty-seven one-hundredths. The warmest on any day was September seventh, eighteen hundred and seventy-six, seven hundred and fifty miles east of Yokohama, when it was eighty-four degrees. The coldest was January fourteenth, eighteen hundred and seventy-six, at the same distance, when it was forty-nine degrees.

The means of the air and water for each month for a year, for a distance of nine hundred miles west of San Francisco, are as follows:

Month.	Mean of air.	Mean of water.
January	51° 62-100	53° 10-100
February	53° 75-100	54° 62-100
March	54° 87-100	54° 75-100
April	53° 50-100	50°
May	57° 50-100	57° 25-100
June	58° 75-100	58° 37-100
July	62° 12-100	60° 87-100
August	64°	62° 25-100
September	62°	63° 12-100
October	62° 12-100	61° 50-100
November	61° 25-100	61° 25-100
December	56° 58-100	59° 41-100
Mean for the year	58° 17-100	58° 04-100

The mean of the highest temperature of water which is between six hundred to eight hundred miles west from San Francisco for the year is sixty degrees and thirty-three one-hundredths.

The mean of the lowest which is within one hundred miles west of San Francisco for the year, is fifty-five degrees and fifty one-hundredths. The warmest water on any day was May third, eighteen hundred and seventy-six, eight hundred miles west of San Francisco, when it was sixty-nine degrees. The coldest was April twenty-fourth, eighteen hundred and seventy-six, in the same vicinity, when it was forty-seven degrees.

The mean temperature of the water in midocean for each month, excepting July, when the steamers followed the northern route, was as follows:

Month.	Latitude about 32° — Longitude about 180°.	Latitude about 42° — Longitude about 180°.
January	54°	44° 75-100
February	58° 25-100	45° 75-100
March	55° 75-100	43°
April	53°	43° 75-100
May	63°	42° 25-100
June	61°	44° 75-100
July		57° 75-100
August	69° 50-100	55° 25-100
September	67° 25-100	53°
October	65°	50° 75-100
November	60° 50-100	53°
December	58° 50-100	51° 50-100
Mean for the year	60° 52-100	48° 79-100

The coldest water in midsummer, in latitude forty-two degrees, was found March seventeenth and eighteenth, eighteen hundred and seventy-six, when it was forty-two degrees. The warmest was July twenty-first and twenty-second, eighteen hundred and seventy-six, when it was sixty degrees.

The coldest at latitude thirty-two degrees was January twenty-ninth, eighteen hundred and seventy-six, when it was fifty-two degrees; and the warmest, August sixteenth and seventeenth, eighteen hundred and seventy-six, when it was seventy degrees.

From these figures we find that this gulf stream, from the time it leaves the equatorial regions until it reaches east of Yokohama, has parted with its heat until it is reduced to a mean for the year of sixty-five degrees and forty one-hundredths. Traveling to the northeast, crossing the Pacific, and turning south along our coast, it has continued to part with more heat until, when opposite San Francisco and for a distance of nine hundred miles, it is reduced to a mean for the year of fifty-eight degrees and four one-hundredths, a difference of seven degrees and six one-hundredths. That part of the ocean from which comes our southwest winds beyond this gulf stream has a mean temperature for the year of sixty degrees and fifty-two one-hundredths.

I find that the temperature of the air on this part of the Pacific rarely varies more than three degrees from the temperature of the

water over which it is passing. The gulf stream opposite San Francisco is but two degrees and forty-eight one-hundredths colder for the year than the water at latitude thirty-two degrees, longitude one hundred and eighty degrees, for the same time.

This difference, if uniform, would hardly create fogs, but it is not uniform. It frequently happens that the water and air outside this gulf stream are warmed to sixty-five degrees, or a few degrees higher; the moisture in this air passing over our gulf stream when it is fifty-five degrees or lower, is condensed, and produces the fogs that bathe the sides of the hills west of the summits of the Coast Mountains. If these fogs pass the summits they meet the heat of the valleys and are dissipated. It is evident that this gulf stream, where it passes the coast of Alaska, British Columbia, and Washington Territory, is very much warmer than the water of the surrounding ocean. The moisture in the air passing over it is condensed, not only into fogs but heavy rains. As this gulf stream comes south it is constantly arriving at a part of the ocean where the temperature more nearly approximates that which it holds. Opposite San Francisco, as has been shown, it is colder than the surrounding ocean. At some varying point north of San Francisco its temperature must be the same as the ocean, and, therefore, in that region fogs cannot be so prevalent. If the variation of temperature between the gulf stream passing this coast and the surrounding ocean were greater, we should have rains in addition to fogs from the westerly winds; as it is, this gulf stream exercises a marked influence on all those portions of the coast counties lying west of the main divide of the coast range of mountains. The rainfall is more on the coast than in the Sacramento and San Joaquin Valleys in the same latitudes. To exhibit this I have selected a series of stations near the coast south from San Francisco.

Stations.	Latitude.	Longitude.	Hight above ocean.	Extent of series.	Annual means of rain.
San Mateo	37° 34′	122° 18′	30 feet	1873–1877	15.74
San José	37° 20′	121° 52′	94 feet	1873–1877	10.24
Gilroy	37°	121° 31′	201 feet	1873–1877	16.45
Hollister	36° 50′	121° 23′	292 feet	1873–1877	9.66
Pajaro	36° 55′	121° 43′	31 feet	1873–1877	15.46
Salinas	36° 35′	121° 46′	52 feet	1873–1877	10.74
Monterey	36° 36′	121° 52′	42 feet	1860–1866	15.29
Soledad	36° 15′	121° 21′	188 feet	1873–1877	8.07

San Mateo and Modesto are nearly in the same latitude. Modesto has an annual mean of nine and sixty one-hundredth inches of rain, while San Mateo has fifteen and seventy-four one-hundredths. San José and Merced are in the same latitude; the former has ten and twenty-four one-hundredths inches, and the latter nine and thirty-six one-hundredths inches. As we go further south the discrepancy between the coast and interior valleys is still more marked. Soledad and Tulare have the same latitude. Soledad gets a mean of eight

and seven one-hundredths inches, Tulare, four and eighty-three one-hundredths inches. In addition, on the coast, fogs and increased cloudy weather supplement the rain and prevent insolation. Ten or twelve annual inches of rain produce crops of cereals on the coast, when the same amount in the San Joaquin Valley, unless very favorably distributed, would result in failure.

North of San Francisco the same rule appears to apply. Humboldt, on the coast, in latitude forty degrees forty-five minutes, longitude one hundred and twenty-four degrees ten minutes, elevation above the sea of fifty feet, from a record of eleven years receives an annual mean of thirty-five and ninety-two one-hundredths inches. Fort Jones, in the interior, latitude forty-one degrees thirty-six minutes, longitude one hundred and twenty-two degrees fifty-two minutes, and with an increased elevation of two thousand five hundred and twenty feet, from a record of five years receives but an annual mean of twenty-one and seventy one-hundredths inches. I think this decrease is in part due to the fact that Fort Jones lies north of Mount Shasta and the Scott range of mountains, for the Town of Redding, fifty miles south-southeast of Fort Jones, among the foothills at the southern base of Mount Shasta, having an elevation of five hundred and fifty-eight feet above the sea, from a record of two years receives an annual mean of forty-two and eight one-hundredths inches. Petaluma, near the coast, from a record of six years receives twenty-one and fifty-one one-hundredths inches. Sacramento, in the center of the Sacramento Valley, with a latitude twenty-four miles north of Petaluma, eighteen and seventy-five one-hundredths inches.

In addition to the effects due to latitude, to the Pacific Ocean and its Japan gulf stream, the temperature of the State is materially modified by the Colorado, Mohave, and Nevada Deserts, lying south and east of this State. These great reservoirs, daily absorbing and daily radiating heat on the south and east, the gulf stream giving up its heat on the northwest, together combine to send the isothermal lines nearly as far north as they are in the western part of Europe. Redding, at the northern end of the Sacramento Valley, latitude forty degrees thirty-five minutes, longitude one hundred and twenty-two degrees twenty-two minutes, elevation five hundred and fifty-eight feet, has a mean annual temperature of sixty-four and fourteen one-hundredths degrees, within two degrees as warm as Charleston, South Carolina, eight degrees further south, Charleston having, according to Blodgett's "Climatology," a mean of sixty-six and six one-hundredths degrees. Red Bluff, latitude forty degrees ten minutes, longitude one hundred and twenty-two degrees fifteen minutes, elevation three hundred and seven feet, has an annual mean temperature of sixty-six and twenty-two one-hundredths degrees, the same as Charleston. Chico, in latitude thirty-nine degrees forty minutes, has a mean temperature of sixty-two and forty-six one-hundredths degrees, but four degrees less than Charleston. Coming south, through the center of the Sacramento Valley from Redding on the north, to Sumner on the extreme south, and the mean temperatures of the various successive stations show the effect of the radiation of heat in this valley, and the influence of the wind from the cool gulf stream, where it flows through the Golden Gate and up the Sacramento River:

Redding—the mean annual temperature is	64.14 degrees.
Red Bluff—the mean annual temperature is	66.22 degrees.
Chico—the mean annual temperature is	62.46 degrees.
Marysville—the mean annual temperature is	63.62 degrees.
Sacramento—the mean annual temperature is	60.48 degrees.
Stockton—the mean annual temperature is	61.99 degrees.
Modesto—the mean annual temperature is	63.68 degrees.
Merced—the mean annual temperature is	63.16 degrees.
Borden—the mean annual temperature is	66.37 degrees.
Tulare—the mean annual temperature is	64.09 degrees.
Delano—the mean annual temperature is	68.64 degrees.
Sumner—the mean annual temperature is	68.29 degrees.

It will be seen that (for the year) Sacramento is the coolest place in the valley, the temperature increasing both north and south from this point. The breeze from the ocean in summer follows up the river and reaches Sacramento each day about five P. M., and thus reduces the mean of its temperature. It may be from the same influence that its rainfall is increased above the next stations north and south. The reduction of temperature at Sacramento by the air from the ocean passing through the Golden Gate and up the Sacramento River was noted and commented on by the Rev. J. H. C. Bonte, in a paper read before the Agassiz Institute in July, eighteen hundred and seventy-six, on the northerly winds of the great central valley of California. He said: "These winds are more virulent and desiccating in the extreme north and the extreme south ends of the valley; the atmosphere from the Golden Gate and the bays seem to modify the wind ordinarily in the center of the valley."

The tables of temperature confirm his inference. Tulare is four degrees cooler for the year than the next station south and two degrees cooler than the next station north, which may be referred to the influence of the cold air from the high mountains at whose base it is situated, and to the evaporation from Tulare Lake.

Another effect of these deserts is to create a daily sea breeze from the southwest return trade winds that prevail on the coast as surface winds during the summer months. Each day, after the sun rises over these great deserts, they become heated and increase the temperature of the air over their surface; this air rises, and as the whole current of cool air is from the ocean on the west, it rushes in to fill the vacancy. A gentle southwest wind may be blowing on the coast at night or in the morning; by eleven or twelve o'clock the full force of the sun's rays is felt in the Nevada Desert—the gentle breeze has increased to a brisk wind, and continues until evening, after the setting sun has withdrawn his rays and the desert has radiated its heat into space. The gentle southwest wind resumes its sway until the next day, when, from the same cause, the high wind is again repeated. Dr. Gibbons, in an article on the climate of San Francisco in the Smithsonian report of eighteen hundred and fifty-four, says: "Whatever may be the direction of the wind in the forenoon, in the spring, summer, and autumn months it almost invaribly works round towards the west in the afternoon. So constant is this phenomenon that in the seven months from April to October, inclusive, there were but three days in which it missed, and these three days were all rainy, with the wind from the south or south-southwest." He adds: "I cannot discover that in any other spot on the globe the wind blows from one octant one hundred and eighty-six days, and from the opposite octant only six days in the year."

The mean summer temperature (June, July, and August) at Wads-

worth and Brown's stations, on the Nevada Desert, on the line of the Central Pacific Railroad, from eighteen hundred and seventy-two to eighteen hundred and seventy-seven, was, for Wadsworth, eighty degrees and thirty-three one-hundredths, and for Brown's, seventy-eight degrees and eight one-hundredths. The summer temperature at Fort Mohave, from a record of six years, was ninety-two degrees and fifty-nine one-hundredths, and at Fort Yuma, from a record of twenty years, ninety-two degrees and seven one-hundredths. Lieutenant Wheeler, in his report of eighteen hundred and seventy-six of the survey west of the one-hundredth meridian, gives the mean temperature of the Mohave Desert for July as ninety-three degrees and six one-hundredths.

Fort Yuma is about five hundred miles south-southeast from Wadsworth. The country intervening is entirely desert.

The indraught of westerly winds from the Pacific in summer does not appear to be alone sufficient to satisfy the demands of the heat of these great deserts. Lieutenant Wheeler states that on the Mohave desert "southeast winds are by far the most prevalent in the summer time." He adds: "It is also easily observed that the clouds and summer rains come from that direction." From this it would appear that the deserts create an indraught from the Gulf of California as well as from the Pacific Ocean.

I have shown that we are in the latitude of the southwest return trades, and that their force is augmented by the effects of the radiation of heat from the deserts on our eastern borders. The configuration of the immediate coast near San Francisco, from Point San Pedro to Point Reyes, and the open Golden Gate, cause an increased quantity of this daily sea breeze to pass by and over this city. This increased wind and accompanying fog, coming directly from over the cool Japan gulf stream, so lowers the summer temperature of this city that, as have been shown by Dr. Gibbons and the records of the Smithsonian Institute, there is no other place in the whole territory of the United States, of the same elevation, that has so low a temperature, the mean summer temperature at the Golden Gate being fifty-six degrees. Another cause affecting the climate of California, to which attention was first called by Guyot, is in the fact that the Sierra Nevada and Cascade Mountains reach the coast of Alaska, and bend like a great arm around its western and southern shore, thus shutting off or deflecting the polar winds that otherwise would flow down over Oregon and California. The cold winds that reach this State are usually from the northwest, and have had their temperature raised by passing over the Japan gulf stream, before that gulf stream has been reduced to the temperature we find it while passing our coast. It has been shown that this northwest wind precipitates its moisture by becoming reduced in temperature where it meets the coast of Alaska, British Columbia, and Washington Territory. It passes inland, following the Cascade Mountains where they leave the coast. As it comes south it is heated by coming into warmer latitudes, its capacity to take up moisture is increased, but it finds none in its course. The Cascades, which are a continuation of the Sierra Nevada, direct it into the Sacramento Valley where it meets still greater heat, which the more increases its capacity for moisture. It, therefore, possesses all the desiccating qualities for which it has become famous, and which are well described by Reverend Mr. Bonte in his article on the subject, to which I have referred. Of course its

influence as a desiccating wind is only felt in the interior, away from the influence of the ocean. The foregoing are some of the principal causes that give to this portion of the Pacific Coast its peculiar climate. The causes of variation in rainfall, temperature, and course of the wind in localities can be ascertained by a series of local and general observations, lasting for a sufficient period to warrant conclusions from the mean obtained. Such observations, if taken and condensed, would be of value to the farmer, to the merchant, and in fact add to the prosperity of every inhabitant of the State. They would also be a contribution to science that would tend to "the increase and spread of knowledge among men." These observations can be taken and recorded for a trifling expense. Everywhere in the State where there are people, there are schools with teachers of more than the average of intelligence. If the Legislature were to pass a law that wherever a school is maintained throughout the year, it should be provided with a rain guage, barometer, and thermometer, and that the teacher should note and record at three given times daily the amount of rain, pressure of the atmosphere, the temperature of the air, and the course and force of the wind, and report these monthly to the County Superintendent, to be by him transmitted to the Meteorological Department of the University, there would, in a few years, almost without expense, accumulate a mass of local information that would be invaluable. If this were done, and also made universal throughout the United States, in time the whole mystery of the winds would be solved.

From the observations and deductions of Humboldt, Franklin, Henry, Espy, Coffin, Ferrel, Dove, Blodgett, Buchan, and Guyot, we know that while the wind is apparently the most capricious, uncertain, and fitful of terrestrial objects, yet it is governed and controlled by inexorable law. If it bring rain or dry weather, breathe in a zephyr or carry destruction in a tornado, slowly waft the Santa Maria to the discovery of a continent, put in motion a gulf stream, or revolve the sails that drain the marshes of a Zuyder Zee, we now know that each gale, breeze, or zephyr is moving and changing, in efforts to restore the equilibrium of pressure with the force and speed in the ratio of the exigency of each varying occasion; in efforts to restore that equilibrium for which the atmosphere is always striving and which it never attains. We know that all its qualities of varying temperature; its power to hold and give up moisture; to increase and diminish in weight, are also controlled by unyielding laws; that many of these laws have been interpreted and are clearly understood; the others, we also know, science, by patient observation and intelligent research, can discover and interpret.

PACIFIC COAST WOODLANDS.

We take the following from the San Francisco Evening Bulletin of January fifth, eighteen hundred and seventy-eight:

The question of preserving forests is year by year becoming one of greater importance in nearly every part of the civilized world. The well recognized connection between the extent of forest lands and the amount of the annual rainfall brings the subject home to every mind. In Europe efforts were made many years ago to prevent the total disappearance of forests from the face of the land, and in Germany and France forests have been planted which have now attained great size. Germany has a forest law which insures the existence of forests in the empire. At the time of the treaty of Westphalia, in sixteen hundred and forty-eight, there was hardly a tree standing in Pomerania, along the shores of the Baltic. This long stretch of seacoast was once covered by an immense forest of magnificent oaks. But Sweden remorselessly cut them down to furnish materials with which to build her fleets, and when that province pased out of her grasp nothing but sand occupied the place once crowned with giant oaks. The winds from the sea swept across the bare plain, driving the yellow sand before, and gradually the character of the land was changed from one of fertility to one of barrenness. The climate was changed. The cold winds brought with them no rain, and a desert was the result. But Frederick the Great sought to repair the ravages of the elements by again causing a forest to grow along the coast. He urged that the nation must raise either trees or sand, and succeeded in planting pine trees along the tract once occupied by the oak forest. The change was marked. The country once again began to take on a fresh and vigorous look. The sand was soon replaced by a fertile soil. In course of time the pines were cut out, but in their places up sprang the old oak forest of the by-gone age. Prussia expends annually a large amount upon her forests, but the income from them exceeds the expenses by about seven million dollars. In France, Louis Napoleon expended many millions of francs in planting a forest in a barren portion of the coast bordering upon the Mediterranean. Gradually the character of the land changed here as it had on the shores of the Baltic, and in time a fine soil was produced. There are many portions of the earth once covered with forests and abounding in fertile fields, that are now bare and desolate, owing to the removal of the trees.

The forests of Europe are estimated at five hundred million acres, or twenty per cent. of the whole area of the continent. In North America there are one billion four hundred and sixty million acres of timber land, of which five hundred and sixty millions are south of the British possessions. The proportion of forest land to the total area is twenty-one per cent. In South America seven hundred million acres are covered with forests. Supposing that twenty per cent. of Africa, Australia, and Asia is covered with timber, we have as a grand total of the timber lands of the world seven millions seven

hundred and thirty-four thousand square miles. Prussia has six million two hundred thousand acres of forest; France, two million seven hundred thousand; Austria, two million two hundred and thirty thousand; England, one hundred and twelve thousand three hundred and seventy-six; Bavaria, three thousand two hundred and ninety-four; Hanover, nine hundred thousand; Wurtemburg, four hundred and sixty-nine thousand, and Saxony, three hundred and ninety-four thousand.

In the United States the destruction of forests is going on with fearful rapidity. It is estimated that in this country one hundred and fifty thousand men are employed in getting out sawed lumber alone, and that the capital invested in the business is one hundred and forty-three million dollars. The woods of Maine are fast diminishing, and the few trees that escape the lumberman's ax do not promise a revival of the almost trackless forests which the moose and deer once frequented. In eighteen hundred and seventy-one the immense area of ten thousand acres was stripped to supply the City of Chicago with lumber. At this rate it is plain to see that forests are rapidly vanishing.

THE LUMBER RESOURCES OF CALIFORNIA.

To most people the timber lands of California are thought to be very limited in extent. Few have visited those portions of California where the great forests exist. So little known were the lumber resources of the State that in eighteen hundred and sixty-eight a company was formed in this city to control the lumber interests; but when they began their surveys in Mendocino and Humboldt Counties, they found that there was more timber than they could control, and the enterprise fell through. Only a portion of the lands of the State have been surveyed thus far, and the exact area of the timber lands cannot be ascertained.

SURVEYED TIMBER LANDS IN CALIFORNIA.

The surveyed lands of the State contain the following acreage under timber:

County.	Acres of timber.	Kind of timber.
Del Norte	115,200	Redwood.
Humboldt	460,800	Redwood, a little pine.
Mendocino	506,880	Redwood, a little pine.
Lake	92,160	Pine.
Sonoma	322,560	Redwood.
Marin	115,200	Redwood and pine.
Yolo		Scraggy oak.
Trinity		None surveyed.
San Mateo	115,200	Redwood.
Santa Clara	230,400	Redwood and pine.
Santa Cruz	230,400	Redwood.
San Benito	46,080	Pine and cedar.
Monterey	46,080	Redwood and pine.
San Luis Obispo	46,080	Redwood, pine, cedar.
San Diego	115,200	Pine.
San Bernardino	138,240	Pine.
Kern	92,160	Pine and cedar.
Tulare	92,160	Pine and cedar.

ACREAGE OF SURVEYED TIMBER LANDS IN CALIFORNIA—*Continued.*

COUNTY.	Acres of timber.	Kind of timber.
Inyo	57,600	Pine and cedar.
Fresno	115,200	Pine and cedar.
Mariposa	138,240	Pine and cedar.
Mono	115,200	Pine and cedar.
Alpine	115,200	Pine and cedar.
Tuolumne	69,120	Pine and cedar.
Calaveras	115,200	Pine and cedar.
Amador	57,600	Pine and cedar.
El Dorado	276,480	Pine and cedar.
Placer	230,400	Pine.
Yuba	92,160	Pine.
Nevada	529,920	Pine.
Sierra	184,320	Pine.
Colusa	23,040	Pine.
Tehama	138,240	Pine.
Butte	276,480	Pine.
Plumas	138,240	Pine.
Shasta	184,320	Pine.
Lassen	230,400	Pine.
Siskiyou	69,120	Pine.
Modoc	92,160	Pine.
Total	6,013,440	

The above represents only the number of acres of timber land actually surveyed at this time. In nearly every county there are large tracts yet to be surveyed and recorded. In many instances the lands surveyed merely border the streams which may be made available for lumbering purposes. There remains, at the least calculation, as much more timber land to be surveyed, giving as the total area of California forests over twelve millions of acres.

THE REDWOOD FORESTS.

The different kinds of timber are very regularly distributed. Along the coast are the great redwood forests, stretching from Del Norte County on the north to San Luis Obispo on the south. The redwood, or *Sequoia*, is found only in California. The *Sequoia Sempervirens*, or the redwood of commerce, is found on the mountains of the Coast Range, flourishing amid the fogs that bathe the counties bordering upon the sea. One vast forest from fifteen to thirty-five miles wide extends from the northern boundary of the State to Tomales Bay, and another begins at Belmont and extends southward. The *Sequoia Gigantea*, or Big Trees, extend along a large portion of the western flanks of the Sierra in disconnected groves. The fame of these giant trees has traveled over the world with that of the beauties of the Yosemite Valley and its water-falls.

PINE, FIR, AND CEDAR FORESTS.

In the interior the pine, fir, and cedar flourish. There are several varieties of pine, the most valuable being that called the sugar pine. This wood is considered better than the white pine of the East, and is shipped in considerable quantities to Australia, South America, Yokohama, Shanghai, Hongkong, and samples have recently been

sent by the Sierra Flume and Lumber Company to New York, in which city it is expected it can be sold for a less price than Eastern pine. Boards forty and forty-two inches wide are easily obtained, which fact calls to mind the time when it was easy to build a house in Maine that should contain no board less than a yard wide, and in which no knots could be found. The yellow pine has been introduced during the past year, by the company named above, and is now extensively used as flooring, inside work, and in all places where fine finish is desired. It has a smoother grain, and is stronger than redwood, and is said to take paint better.

California yellow and sugar pine is being shipped to foreign countries in competition with Eastern lumber of the same nature. The fir is found only in the more elevated regions of the Sierra. It is an odorless wood, and is now being used in manufacturing packing boxes for articles requiring an inodorous wood. In this respect it is superior to the white pine of the East. Spruce is also abundant out in the mountains, and is used for building timbers and flooring. It is harder than redwood, and lasts as long.

EXPORTATION OF CALIFORNIA FOREST TREE SEEDS FOR FOREIGN COUNTRIES.

The governments of several European countries begin to look to California to furnish them with trees with which to keep up their forests. Austria, Germany, England, New Zealand, and Australia are large purchasers of seeds for forest planting. It is estimated that over ten thousand dollars worth of seeds are annually exported from this State to foreign countries, and the demands for seeds of the best varieties of forest trees exceeds the supply. The favorite tree for forest culture seems to be the Oregon pine, or yellow fir. For shipbuilding this wood is considered as good as imported oak. A vessel built of this lumber eighteen years ago, at Eastport, was recently examined, and was found to be as sound as the day on which she was launched. California redwood is being planted extensively in Australia and New Zealand, and the German Government has recently sent to this city to obtain samples of California lumber with the seeds of various forest trees growing in the State.

LUMBERING IN CALIFORNIA AND THE EAST.

The business of lumbering is conducted in a different manner here from that of the East. This is necessitated by the difference in the physical formation of the country, which allows of large rivers only in the interior valleys, thus depriving the lumbermen of the streams by which their lumber could be brought down from the mountains and forests to places where it could be manufactured. In the East the season of cutting logs, or logging, as it is called, is the winter, when the snows in the forests permit the use of sleds, by which the logs are easily transported to the banks and the surface of frozen streams. Piled high on the ice they there remain until spring, when the high waters caused by the melting snow transport them to the mills below.

In this State there is little of this log-driving. The small streams along the coast and among the mountains will float a few logs down to the mills, but will not accommodate immense drives such as float

down Eastern rivers in the spring. Those mills which manufacture lumber cut on the coast are, for the most part, situated at the mouth of the small streams, and load their lumber directly into the vessels transporting it to its final destination. In the mountains the mills are, in many instances, situated in the forest where the lumber is cut, and the sawed lumber is conveyed to the valleys by means of immense flumes, built at great cost. In Washington Territory still another method of getting and moving lumber is in vogue. The trees grow so near to the waters of Puget Sound that the logs are rolled into the sea, and there formed in rafts, after which they are towed to some mill, where they are manufactured.

CALIFORNIA REDWOOD SAW MILLS.

The mills that cut redwood lumber extensively are located along the coast, in the neighborhood of the redwood forests. The following is a list of the redwood mills represented in this city, their situation, and yearly capacity in feet:

Mills.	Location.	Capacity.
Evan's	Humboldt	8,000,000
Flannagan & Brossman	Humboldt	7,000,000
Vance Mills	Humboldt Bay	15,000,000
Harrington & Company	Humboldt Bay	10,000,000
Kentfield & Company	Humboldt	15,000,000
Dolbear & Carson	Humboldt	10,000,000
Occidental	Humboldt	9,000,000
Russ, Pickard & Company	Humboldt	9,000,000
Trinidad	Humboldt	10,000,000
Noyo	Mendocino	15,000,000
J. G. Jackson	Mendocino	8,000,000
Mendocino Lumber Company	Mendocino	15,000,000
Little River	Mendocino	4,000,000
J. & A. M. Cook	Mendocino	4,000,000
Navarro	Mendocino	8,000,000
Helm Kee	Mendocino	8,000,000
Dixon	Mendocino	3,500,000
Garcia	Mendocino	8,000,000
Walhalla	Mendocino	8,000,000
Sampson & Company	Mendocino	2,000,000
Salmon Creek	Sonoma	3,000,000
Hobbs, Pomeroy & Company	Sonoma	4,000,000
Rough & Ready	Sonoma	3,000,000
Miller	Sonoma	3,000,000
Newport	Sonoma	3,000,000
Duncan's Mill	Russian River	6,000,000
Moscow	Russian River	5,000,000
Hiller	Russian River	6,000,000
Tyrone	Russian River	5,000,000
Ryley	Russian River	3,000,000
Streetan	Russian River	3,000,000
Total		220,500,000

These redwood mills have, therefore, the capacity for manufacturing two hundred and twenty million five hundred thousand feet of lumber each year, and other mills, not represented here, will undoubtedly carry the figures much higher. The mills in Mendocino, Humboldt, and Sonoma Counties are run by steam power almost exclusively, only five being supplied with water power.

LUMBER PRODUCTS OF EIGHTEEN HUNDRED AND SEVENTY-SIX.

The last report of the Surveyor-General gives the following figures for eighteen hundred and seventy-five and eighteen hundred and seventy-six: Adding to the figures for the year eighteen hundred and seventy-five, the production of the counties that were evidently omitted, estimating that production at thirty million feet, we have a total of three hundred and eighty-six million forty-five thousand three hundred and eighty-eight feet, which, compared with the production of the following year, shows a gain of over one hundred million feet for the year eighteen hundred and seventy-six. Of the mills running, one hundred and six are run by water power, the others by steam:

Counties.	Mills.	Feet of Lumber Sawed.	
		1876.	1875.
Amador	4	3,950,000	5,000,000
Butte	19	47,000,000	45,000,000
Calaveras	3	1,000,000	2,000,158
Del Norte	7	10,000,000	7,000,000
El Dorado	14	4,000,000	6,000,000
Fresno	2	1,500,000	----------
Humboldt	20	64,000,000	75,000,000
Inyo	4	3,828,000	8,628,500
Lake	6	3,750,000	3,450,000
Lassen	5	2,000,000	----------
Los Angeles	4	60,000	30,000
Mariposa	4	1,550,000	----------
Mendocino	21	53,000,000	50,000,000
Modoc	9	3,500,000	2,400,000
Mono	4	250,000	1,000,000
Napa	1	700,000	500,000
Nevada	28	30,000,000	6,000,000
Placer	18	25,550,000	----------
Plumas	9	3,000,000	----------
San Bernardino	6	3,000,000	3,500,000
San Diego	7	1,875,130	1,975,000
San Luis Obispo	1	100,000	200,000
San Mateo	12	5,000,000	6,500,000
Santa Clara	1	500,000	13,197,230
Santa Cruz	20	15,000,000	20,000,000
Shasta	14	8,100,000	10,450,000
Siskiyou	13	4,000,000	4,000,000
Sonoma	15	60,000,000	40,000,000
Tehama	9	34,450,000	26,914,500
Trinity	9	2,000,000	1,800,000
Tulare	6	93,000,000	7,400,000
Tuolumne	6	5,100,000	6,100,000
Yuba	6	1,500,000	2,000,000
Totals	307	492,263,130	356,045,388

LUMBERING IN THE SIERRAS.

Lumbering among the Sierras is conducted in a novel way. As before stated, mills are built in the midst of the forest, and even in situations whence it would be almost impossible to transport logs to convenient places for sawing. But a safe, rapid, and cheap means of transportation was found in the V-shaped flumes that have been

built. The first flume built for this purpose was in Washington Territory. Next, a similar flume was built in Nevada, to transport cord wood to Virginia City. Next came the Antelope flume, in this State, terminating at Sesnia, soon followed by one extending from the mountains to the headwaters of Butte Creek to Red Bluff, and by another extending from the headwaters of Chico Creek to within a few miles of Chico. The latter three flumes passed into the possession of the Sierra Flume and Lumber Company two years ago, and that corporation has extended and connected them so that they now form large arteries for the transportation of lumber to the shops of Red Bluff and Chico. The Chico flume is forty-five miles long, and carries lumber into the company's yard. Lumber placed in the head of the flume will be delivered at Chico in three and one-half hours. The cost of transportation in this way is reduced to about seventy-five cents per thousand feet. The flumes are constructed of plank thirty inches wide and sixteen feet long, nailed together at the sides. The trough thus formed is placed in brackets and a series of them forms the channel into which the waters of a stream are turned. Men are constantly employed watching the lumber as it comes down the flumes, in order to prevent "bunching," and a footwalk is built along the top of the flumes for their entire length. In some places the flumes run over trestle work one hundred or one hundred and fifty feet high; and in some cañons it may be seen fastened to the side of an almost perpendicular wall. The company above named own over one hundred and fifty miles of flume, and control a timber region bounded on the west by the Sacramento River, on the south by Butte Creek, on the east by the east branch of the south fork of the American River, and on the north by Battle Creek—fifty miles north and south, and eighty miles east and west. About Deer Creek and Big Meadows there are forty square miles of virgin timber land. By this system of flumes the lumbering business is brought to perfection. The whole system can be placed under the direct control of one man, and everything regulated by telegraph. If an order comes in to the office at Chico for a particular kind or size of lumber that is not in the yard, a telegram to the mills will set men at work getting out that particular kind, and in the course of four or five hours it will reach the yard.

HOW THE TREES ARE FELLED.

The trees in these timber regions give logs from sixty to sixty-two inches in diameter. The trees are not cut down with the ax, but are sawed through, and sometimes a tree remains standing after the trunk has been severed from the stump, and has to be wedged over. The immense logs furnished by these trees are with difficulty loaded upon the trucks, and in some instances tramways have to be built from the log to the truck before it can be loaded. The mills are furnished with gang-saws that cut up a whole log at once, circular saws, and all of the modern improvements in mill machinery. The nine mills of the Sierra Flume and Lumber Company produced last year: Of sugar pine, eighteen million six hundred and seventy-nine thousand nine hundred and four feet; mountain pine, fifteen million five hundred and fifty-six thousand nine hundred and seventy-one; spruce, six million two hundred and eighty-one thousand eight hundred and sixty-seven; fir, one million sixty-eight thousand one hun-

dred and ninety-four; total, forty-one million five hundred and eighty-six thousand nine hundred and thirty-six feet.

The other mills in the mountains cut an immense amount of lumber each year. The millions of feet that supply the mines of Nevada are cut in California, and there are many little mills that supply only local demands.

ANNUAL RECEIPTS OF LUMBER IN SAN FRANCISCO.

Only a portion of the lumber cut in the State finds its way to the San Francisco markets. The receipts of lumber in this market since eighteen hundred and seventy-two have been as follows:

1872	236,868,900 feet.	1875	306,324,198 feet.
1873	203,329,441 feet.	1876	304,165,857 feet.
1874	253,250,564 feet.	1877	275,776,094 feet.

The receipts for December of last year, included in the above statement, have been estimated at twenty million feet. This lumber embraces Puget Sound and Oregon pine, rough and dressed, fencing and pickets, and California spruce, cedar, maple, ash, redwood, etc., railroad ties, telegraph poles, and other timber. In eighteen hundred and seventy-two over six million railroad ties were received in this city, and six hundred and seventy-three thousand telegraph poles. In eighteen hundred and seventy-six only one hundred and eight thousand ties and one hundred and seventy-seven thousand six hundred and sixty-two poles were furnished. Oregon and Puget Sound pine is in greater demand than California redwood, and a much larger quantity is brought to market. But besides this lumber large quantities of shingles, laths, posts, piles, spars, knees, boards, etc., are received. We export lumber to Peru, Honolulu, Australia, Mexico, Tahiti, Chile, Apia, Central America, Siberia, Japan, Panama, Marquesas, British Columbia, and New Zealand. In eighteen hundred and seventy-six we exported ten million four hundred and ninety-six thousand feet of lumber to the above countries, besides shingles, poles, spokes, ties, etc., valued at two hundred and thirty-three thousand six hundred and seventy-four dollars. This does not include the large quantities shipped directly from the mills, which would raise the total to much larger figures, but only that lumber exported from this port.

The following is the schedule of prices adopted by the Pine Manufacturers' Association, December ninth, eighteen hundred and seventy-seven, per one thousand feet, for foreign shipment:

Rough, under forty feet	$10 00
Rough, forty to fifty feet	11 00
Rough, clear	16 00
Rough, fifty to sixty feet	12 00
Rough, sixty feet and over, at special rates, not less than	12 00
Rough boards, fencing, and 1x3 and 1x4	11 00
Flooring and stepping	17 00
Laths	2 00

For coastwise shipments (domestic ports):

Rough, under forty feet	$10 00
Rough, forty to sixty feet	11 00
Rough, sixty feet and over	12 00
Flooring and stepping	17 00
Laths	2 00

For cargoes, or parts of cargoes, coming through the Golden Gate, to the trade or steam railroad companies, delivered at Oakland or San Francisco in vessels or lighters, and in any other part of the Bay of San Francisco from the vessel direct:

Rough, under forty feet	$15 00
Rough, forty to sixty feet	16 00
Rough, sixty feet and over	18 00
Flooring and stepping, first quality	23 00
Flooring and stepping, second quality	18 00
Three-inch and four-inch, for street and wharf plank	14 00
Plank and scantling, twelve feet and under	14 00
Rough refuse	10 00
Laths	-----

For the trade, from the yards:

Rough, under forty feet	$17 00
Rough, forty to sixty feet	18 00
Rough, sixty feet and over	21 00
Flooring and stepping, first quality	27 00
Flooring and stepping, second quality	22 00
Clear timber, ship plank, etc.	27 00
Three-inch and four-inch, for street and wharf plank	16 00
Plank and scantling, twelve feet and under	16 00
Rough refuse	12 00
Laths	-----

Value of exports for February:

Zephyros, Acajutla, nineteen thousand four hundred feet of lumber	$339 00
Paloma, Tahiti, thirty-seven thousand feet of lumber, one hundred and fifty thousand shingles	827 00
Granada, Panama, two thousand feet of lumber	70 00
Granada, Mexico, one hundred and five feet of lumber, fifty shooks	29 50
South Carolina, Mexico, four thousand feet of lumber, thirty packages of shooks	124 00
South Carolina, Central America, one thousand feet of lumber	35 75
E. Schroeder, Mexico, twenty-one thousand and fifty-five feet of lumber, thirty thousand shingles	477 42
Teutonia, Mazatlan, thirty-five thousand six hundred and ninety-four feet of lumber, forty thousand shingles	886 38
W. H. Meyer, Honolulu, two thousand five hundred and seventy-nine feet of lumber, one hundred thousand shingles, three thousand posts	559 00
Hera, Honolulu, five thousand and nineteen feet of battens, six hundred and seventy thousand shingles	1,233 86
Wisteria, Adelaide, sixty-six thousand six hundred and seventy-eight feet of lumber, four hundred feet of pickets	1,708 00
Leon, Adelaide, one hundred and thirty-six thousand four hundred and forty feet of lumber	3,985 15
Australian, Australia, one hundred and ninety thousand five hundred and ninety-seven feet of lumber	5,465 00
Georgia, Panama, fifteen thousand five hundred feet of lumber	381 00
Georgia, Mexico, fifty-seven packages of shooks	40 00
Vladimir, Vladovostock, four thousand six hundred and one feet of lumber	112 00
Newbern, Guaymas, three thousand five hundred and fifty feet of lumber	176 24
Sovereign of the Seas, New York, one million shingles	2,500 00
St. Paul, Honolulu, ten thousand one hundred and fifty-two feet of lumber	1,143 55
Eureka, Honolulu, three hundred and twenty thousand feet of lumber	3,840 00
Percy Edward, Tahiti, eight thousand and eight feet of lumber	208 00
Percy Edward, Marquesas, twelve thousand and eighteen feet of lumber	175 00
Una, Honolulu, two hundred and seventy thousand feet of lumber	3,240 00
M. E. Hall, Central America, two thousand feet of lumber	54 00
Total, one million one hundred and sixty-two thousand three hundred and seventy-seven feet of lumber, one million nine hundred and ninety thousand shingles, eighty-seven packages and fifty shooks, three thousand posts, five thousand and nineteen feet of battens, and four hundred feet of pickets	$27,609 85

FORAGE PLANTS.

BY C. H. DWINELLE, PH. B., BERKELEY, ALAMEDA COUNTY.

There is no subject of greater importance to the farmers of California than that of forage crops. The feeding of domestic animals must, with rare exceptions, form a very important feature in the rural economy of all countries where agriculture is carried on for any great length of time. Not only do these animals furnish us with food, clothing, and motive power, but they do it without impoverishing the soil to any great degree. Under proper management, with the aid of forage crops and animals to utilize them, poor soils may be made good, and good soils made better. Tracts of nearly pure sand have in this way been transformed into rich black soils.

To be sure, there are cases where sediment brought on by natural or artificial irrigation, can be relied upon to renew the soil. In other cases still mineral fertilizers will supply what is needed to maintain a succession of crops. As a rule, however, the successful cultivation of land, for a long term of years, must be accompanied by the raising of animals, of some kind, in considerable numbers.

THE VALUABLE ELEMENTS TAKEN FROM THE SOIL MUST BE REPLACED, should be one of the farmer's first rules. The disregard of this law has reduced to sterility some of the fairest portions of the earth. As notable examples of this bad result, we have some of the countries bordering on the Mediterranean, and in numerous cases the cotton and tobacco fields of the Southern States.

In many parts of our own favored State, the unwise persistence in raising crops for shipment has so reduced the fertility of the soil, that it scarcely returns a profit to the cultivator. It seems hard for our practical (?) farmers to admit, that if you draw repeatedly on your bank, and make no deposits, you will finally exhaust your account, and have your checks returned dishonored. Inventive genius may give us machines that will so reduce the expenses of farming that a very light crop will still pay. Summer fallowing, by storing a part of one year's moisture until the next, turning in a quantity of vegetable matter, and weathering the soil, may give fair crops for a time. The great fact remains, however, that if land is used for crops that are to be consumed elsewhere, and no return is made to it for the crops sent away, it must ultimately be exhausted.

The tobacco raiser sends to the markets of the world the choicest elements of his soil, to be scattered broadcast in ashes from the smoker's pipe or cigar. Land exhausted by this crop is very difficult to reclaim, but it can be brought back by intelligent mixed farming.

The robbing of the cotton lands is quite inexcusable, as it is the seed which makes the main draught upon it. If this is returned to the soil from which it came, instead of being allowed to rot where it is thrown as it comes from the gin, or being sold to those who have

intelligence enough to know its value, the actual wear on the soil of a cotton crop is very small.

In our own too exclusive grain growing, the land has been drawn upon for the elements of the grain itself, and, by the burning of the straw, cheated out of the vegetable mold which is so essential to continued fertility. This should be changed by having all of the present waste consumed by animals rather than by fire. Some would say that, from their experience, it would be more profitable to feed out a large part of the grain itself than to ship it. But if grazing is brought in as a method of saving the refuse of a grain farm, it will not be wise to rely upon that refuse alone to carry the stock through all parts of the year, good seasons and bad. Other crops, raised specially for forage, must be had, so that if one resource fail, another may be at hand. It will be found best also to change about the location of the various crops, whether for grain or forage. And in this way we shall have established a mixed husbandry, with rotation of crops. This is what has been found profitable elsewhere, and it is what has already been adopted by our most intelligent and successful farmers in this State. If a farmer has money ahead, in the bank, or out at interest, the chances are that he raises a variety of crops and believes in live stock. England went through this process of depletion until her average yield of grain was very low. By the introduction of the rotation of crops and the cultivation of a variety of the best grasses, clovers, and roots, to be fed to choice animals on the farm, the tide has been turned, and the average return raised immensely. The object has been to reduce the actual waste to the smallest possible quantity of those elements which the farmer can afford to buy, in mineral fertilizers. We, too, must study our resources in the way of mineral fertilizers, but not with the idea that they can take the place of vegetable mold.

Assuming, then, that forage crops are of importance to us, the question arises, which ones are the best? The answer will depend on a variety of circumstances. Soil, climate, and water supply will decide what can be grown with success. The product in view, and the taste of the animals to be fed, must influence the question of profit in a very important degree. Some plants are valuable in the pasture, but not profitable for curing. Others are at their best when cut and fed green. Some must be dried to be liked by cattle. Certain ones are valueless when others are to be had, but invaluable in times of scarcity.

CONSULT NATURE.

I am convinced that Nature has not been consulted as much as she should be in this matter. While I strongly favor the importation and trial of plants that have proved valuable in other countries, I believe that we may find plants, either indigenous or accidentally introduced, already growing about us with such vigor as to show their adaptability to the locality, and needing but little encouragement to become profitable forage crops. This summer I have been examining the grasses of Oakland Township, and find that there are several that deserve more than a passing notice.

RYE OR RAY GRASS, DARNEL.

There are here at least three species of the genus *Lolium*. The Italian rye or ray grass (*Lolium Italicum*), or at least a grass which answers its description, is widely distributed. It occurs on the foothills about the University buildings, and at many other places, down as far as the bay shore. It does particularly well on low adobe, or clay lands, that are very wet in winter. On the dry lands it makes but a moderate growth, though even there it is a valuable addition to the pasturage. On the low lands it tillers out wonderfully, particularly if grazed or cut off before going to seed. It often grows to a hight of two or three feet, with beautiful heads from six inches to a foot long. The seeds are very numerous, and, when ripe, they seem to be very rich food. Horses, cattle, and fowls are very fond of the grass and its seeds. There is a large tract on each side of San Pablo Avenue, where it is the prevailing grass. In some spots, that have not been cultivated for several years, it has so completely taken possession that it would do to cut for seed. Without other irrigation than that of the rains of last winter, it has grown in places so as to be cut twice for hay, and there is now fair feed. Though the winter rains were very heavy, those of the spring have been so light as hardly to affect vegetation. This would indicate that the grass would do well on suitable soil, where irrigation in winter only is practicable. On dry ground, where undisturbed, the seed is now ripe, and the stalks brown. Where it was cut back, it is now, the latter part of July, as green as in April. I have, as yet, no definite information as to the introduction of this fine grass in this locality. One of our pioneer farmers tells me that he first noticed it on the San Pablo road in eighteen hundred and fifty-four, in front of land cultivated by a Belgian. Perhaps this European brought the seed with him intentionally, or by accident, in his packing boxes. The United States Patent Office distributed the seeds of the Italian rye grass all over the Union, more than twenty years ago, and we need not be surprised to find it in any place that has been long settled. I have myself observed it at Santa Cruz and Alviso, and Professor Hilgard reports it as abundant about San Rafael. It so closely resembles what, on this coast, is called "cheat," that many of our farmers have not noticed its advent in their midst. It is, however, a much finer and better grass, and no one who has once had the differences between the two pointed out should ever be cheated again.

The grass is no novelty in Europe. It has been cultivated there for a great while, probably for several centuries, and is a great favorite. On the irrigated plains of Italy it gives immense returns. It is largely used in soiling cattle. Perhaps it may yet prove a rival to our favorite alfalfa on some soils. The reclaimed salt marshes seem to be peculiarly suited to it. It is possible that the Italian rye grass is to hold the place in our agriculture that timothy does in New England. Mixed with alfalfa, it may prove a much better feed than either alone. Will not some of our irrigators try a small piece of alfalfa and Italian rye grass mixed? It might keep off the hoove, which so often attacks cattle feeding on alfalfa alone. In England this is the favorite grass for irrigated lands, particularly where sewage is used.

The New Zealand rye grass, of which Mr. Sneath spoke so favorably at the last annual meeting of the California Dairyman's Society,

is doubtless closely allied to, if not identical with, the Italian. His directions for sowing it are so good, for this and other fine seeds, that I take the liberty of copying them as they appeared in the Pacific Rural Press. The items as to its yield will also be read with interest by dairymen.

HOW IT OUGHT TO BE PLANTED.

The seed weighs about twenty pounds to the bushel and will give about one hundred seeds to the superficial foot when sown twenty pounds per acre. This is, perhaps, sufficient, although I have used thirty pounds. It should not be covered more than one-quarter of an inch deep, and therein I have found my greatest difficulty, but I believe I have discovered a plan by which I can seed it to a regular depth hereafter. I am building a light wooden roller four and a half feet by nine feet, with a round steel wire rake in front of it. This rake can be regulated by a spring attachment, and the teeth being only two inches apart, it will, I think, completely scarify the surface and cover the seed to any depth I may desire, while the roller, following, will press the covering firmly.

I do not think frost will affect this grass as seriously as it does alfalfa in its first growth; but as we have but little frost in our section I cannot speak of it with certainty. I prefer putting in the seed early, as the roots must be firmly set before the grass toughens and dries in summer, or else stock may pull it up roots and all, in loose soil especially.

Rye grass has been the leading grass in England for many years, and generally grown there upon low and marshy lands. The "Encyclopedia Brittanica," under the head of agriculture, reports a cutting from a favored locality of eighty tons per acre per annum of grass (green weight) when fortified with liquid manure and a plentiful supply of water. It was cut just as the seed stems were pushing forward.

I now have grass from ten to fourteen inches high, that was cut thirty days ago, and this has been repeated all this summer.

The Italian rye grass is said to be a biennial, that is, lasting but two years, but unless cut very close it would probably resow itself, so as to last for a long time.

ENGLISH, OR PERENNIAL RYE GRASS.

The second kind of rye grass, which I have found spreading in this township, is the English or perennial (*Lolium perenne*). It is, in turn, more delicate in its structure than the Italian, and is considerably used for lawns. The stalks and leaves are finer, the spikelets smaller and less numerous, and the heads more drooping than in the Italian. From a limited acquaintance with it, I should say that it would give less forage, though of a finer quality, than the Italian rye grass. In seed it is decidedly inferior to the Italian. The latter is very heavy when ripe, and horses are eager for it.

The only piece of English rye grass that I have observed near here, as left to shift for itself, was very roughly put in several years ago. The rains were deficient that year, and the land is very foul with weeds. In spite of these drawbacks and close pasturing it has survived, and adds very much to the carrying capacity of the land. A specimen of this grass was lately sent to the editor of the Pacific Rural Press from Mare Island, with the statement that it had spread over considerable land there.

POISON DARNEL, OR CHEAT (?).

The third species of this genus, which I shall consider, is the darnel proper of the English farmer (*Lolium temulentum*). It has a variety of names, as bearded darnel, poison darnel, and wire grass, and has borne, to say the least, a doubtful character. The farmers of this coast have attached a new opprobrium to it by dubbing it

"cheat." It seems like robbing the devil of his due to take this name from the brome grass, chess (*Bromus secalinus*), which has borne it so long in England and the United States. This darnel has been known and written about for centuries, and has had the reputation of being poisonous. *Lolium*, in its old Latin name, and *temulentum* means *drunken*. It is very widely, we may say universally, spread over the grain lands of this coast. Unless a farmer takes great pains to clean his seed grain, he sows it with nearly every crop, and it is carried from place to place by the waters of every stream, and by birds and animals innumerable. Like the other grasses of this genus, mentioned above, it flourishes on a stiff soil with abundance of water. If the season is favorable to the growth of grain, that gets the start, and the darnel makes but little showing, though it may ripen and drop its seed for the next year. The use of the header is particularly favorable to the increase of this, and many another, weed which does not ordinarily attain the hight of thrifty grain. Grazing off headed stubble with sheep, particularly Southdowns, helps very much in keeping the land clear of darnel, Napa thistles, etc.

When the winter is cold, and there are excessive rains, so that some of the grain rots in the ground, and the rest makes a stunted growth, the darnel stools out and takes its place. The field is then said to be "cheated," *i. e.*, the grain is supposed to be turned into darnel. Many people do not notice the difference between grain and darnel before they begin to throw up their stalks, consequently they are "cheated" with the hope of full crops when the ground is covered with darnel. A little study of the plants, side by side, will enable any one to distinguish between them, even in their early stages. The leaf of the darnel is narrower than that of wheat. It is very rich in silica, and the mature stems are stiff and harsh. The upper side of the leaf is finely corrugated, has rather a dull surface, and feels rough to the finger, drawn over it from the stem towards the opposite end. The under side is much smoother, and glistens in the sunlight. On a wet piece of ground its dark green is in strong contrast with the sickly wheat. The darnel is more erect in its growth, and the stools are not as spreading as in wheat.

It is very desirable that the question as to the evil results from eating this grass, and its seed, should be definitely settled. There is certainly a great deal of it in the hay raised about here, and I have never heard of any bad effects from it. Thinking that the poisonous qualities might be developed in the ripening of the grain, I wrote to Mr. E. T. Wall, of Santa Rosa, Sonoma County, who, I knew, raised it as a crop. In the course of his reply, he says: "As for cheat being poisonous, that is new to me; for I, in common with the majority of my neighbors, consider it the best hay we have. I have fed the threshed cheat grain to horses and hogs, and prefer it to any other grain. I have never noticed any of the symptoms you speak of among stock here, and I am satisfied it will produce no such effects."

This is, certainly, very strong testimony, not only as to the harmlessness of darnel, but as to its actual value as a field crop. I shall take every opportunity to obtain information on this point, by experiment and from the experience of others. It would be strange if it should prove, after all, that the only "cheat" about this grass is the "poison" in its name. If darnel is innocent, let it be relieved from the imputation of being "the only poisonous grass," and place it among the honored cereals. It is possible that darnel may be sub-

ject to the attacks of some fungus, like ergot in rye, and smut in Indian corn, which renders it unfit for food. It may be well to give the indictment against darnel, as already published in the transactions of your Society for eighteen hundred and sixty-four and sixty-five, in Professor H. N. Bolander's papers on grasses. It is as follows:

Haller affirms that this species of *lolium* not only produces intoxication, as its trivial name implies, but that if baked into bread, or fermented in ale, its administration is attended with very disagreeable and even fatal effects. It produces headache, vertigo, vomiting, lethargy, drunkenness, and difficulty of speech, and the tongue exhibits a very strong trembling. Seager further remarks, that a trembling of the body is one of the most certain signs of poisoning by this plant. It also affects with blindness for several hours. By the Chinese laws—for this plant is found both in China and Japan—it is forbidden to be used in fermented liquors. Some of the intoxicating qualities of factitious beer are said to be owing to the admixture of darnel with the malted barley. According to Withering, horses, geese, etc., are killed by darnel, and dogs are particularly subject to its influences, mixed in small quantities in their food. It is, however, said to fatten chickens and hogs. In the Medical and Physical Journal there are placed on record several cases of poisoning, by darnel, in the human subject. In these, "giddiness in the head, pain, and swelling of the limbs, succeeded by abcess and gangrene, were the most prominent symptoms. One of the sufferers lost both his legs." (Burnett's Outline of Botany, p. 365, published 1865.) Geiger gives in his Pharmac. Botany, eighteen hundred and thirty-nine, an analysis of the grains made by Bley. According to this analysis its "effects are only slightly narcotic." I have known of but one instance that a farmer had observed some deleterious effects on cattle having been fed on this very grass.

If, after reading this, anyone feels a hankering for a loaf of darnel bread he can easily find the material for it. He should, however, make careful preparations for recording his sensations after eating it, and leave the notes in good shape for the benefit of his survivors. I should hardly recommend the introduction of poison darnel where it does not already grow. If, however, it gets the upper hand in a grain field after a wet winter, like the last, it is best to cut it in the milk, before it becomes too tough and wiry. By thus preventing it from ripening the land can be nearly cleared of it for some time.

The seeds of several kinds of rye grass can be had of most any regular seed dealer. The English farmers have names for a great many varieties of the perennial rye grass. All of the species of this genus (*Lolium*) seem to vary and sport in minor points. Sometimes this can be ascribed to change of location, but there are some things that seem to be independent of that. For instance, the head may be bearded or bald, the two forms growing on the same hand's breath of ground, and apparently from the same lot of seed. I have observed this in both Italian rye grass and darnel (*L. Italicum* and *L. Temulentum.*)

MEADOW SOFT GRASS—"MESQUITE." (?)

French—Houque laineuse—Foin de mouton. *German*—Wolliges Honig-gras.

This beautiful grass (*Holcus lanatus*) has been widely spread among the farmers of this coast, more particularly in our northern coast counties, and through Oregon and Washington Territory. I became familiar with it while living on the peaty lands of the San Joaquin delta. Mr. A. G. Kimbell gives me the following history of its introduction there:

In eighteen hundred and sixty-two I was in the seed store of Mr. Moore (pioneer seedsman of San Francisco), and he showed me some seed that he called 'mesquite grass' seed, and gave me a few seeds of the same to try on the tule lands. I sowed the seed on Middle River, and the grass grew and flourished well. As I had no reclaimed land then to cultivate, it was of no value to me, and I paid but little attention to it. Some twelve or fifteen years ago I met in San Francisco the Honorable J. M. Hudspeth, of Sonoma County, and spoke to him about my trial

of the mesquite grass on the tules. I suggested to him that, as he lived near the sea coast, I thought he could make it profitable in his section of country, and gave him about a tablespoonful of the seed. That he planted on his place, and succeeded so well that the grass became very popular, and he could not at first supply the demand for seed at one dollar per pound. This grass grows two and one-half to three feet high here, and seeds in May; and before the seed stems are dry, the young shoots are springing up from the roots. When not cut for hay or grazed, it will seed the second time before frost.

On the low lands in question it attracts attention on account of its peculiar light green tint, and also from the fact that frost does not injure it. During the winter months, when the rank swamp growth and most of the introduced grasses and clovers are blackened and worthless as forage, a patch of meadow soft grass stands out in relief, like an oasis in a desert.

As with the rye grasses, the more you trample on it, the deeper it sends its roots, and the more it tillers. This, of course, is a very valuable trait in pasture grasses. This species grows in bunches, if not very thickly sown. Its name of soft grass, or velvet grass, is given on account of the texture of the foliage, which is covered with very fine, soft hairs. In this State it sometimes grows to a hight of six feet, but from two to three feet is more common for the seed stalks. The color of the heads or panicles varies from light green to a decided purple. On account of the down upon it, cattle do not seem to like it at first, and will avoid it if more palatable grasses are at hand. When other feed is cut off by frost or drought, they take very kindly to the soft grass, and thrive upon it.

I make the following extracts from a letter kindly written to me by Mr. J. M. Hudspeth, of Sebastopol, Sonoma County, who received his seed from Mr. Kimbell:

> I have been growing the grass mentioned since eighteen hundred and sixty-five, and have found it well adapted to the coast counties. It grows well on all moist land, regardless of soil. I say this because we have here in this vicinity some 'honeysuckle land' that produces no grass of any kind, but the mesquite will grow on such places six feet high, producing a large crop. It grows from the root. I have had some in pasture for eight or nine years without reseeding. It makes a light hay, and stock do not seem to like it until they have used it a while. I think it is very nutritious. It is esteemed very much by the milk ranchers here, to give green feed in the latter part of the season. Stock prefer it green to dry. I do not think it will do on dry upland. I think it best to sow alone. It does not matter much whether the land is plowed or not for it, so that the seed is covered. It should always be sown early.

The merits of this grass have been very thoroughly discussed in the Oregon papers within the last few months, and there seems to be a considerable diversity of opinion about it. The estimate set upon it seems to vary with the soil and climate, and the mode of utilizing it on each farm. Its main virtues seem to be: that it will battle successfully with fern on its own ground; very wet and frosty weather does not injure it; the close cropping of sheep does not kill it out, as it does timothy and some other grasses. (The French call it "sheep grass," *foin de mouton*.) On the other hand, some say that it is only second rate as a butter grass, and is superseding better kinds. It is also said to be very hard to eradicate when it is once established.

There are one or two points, brought out in the newspaper articles, which suggest that the Oregonians may have two grasses, closely allied forms, under the name of "mesquite." These are, the wide range of opinion as to its value, and the statement that the grass has running roots. Now, in Europe, besides the meadow soft grass (*Holcus lanatus*), classed as about a second rate grass, there is the creeping soft grass, *houque molle* of the French (*Holcus mollis*), set down as very

poor, and not to be encouraged where better grasses will grow. The latter has a creeping root. Chamber's Encyclopædia says of it: "The roots sometimes extend five or six feet in a season. They contain much nutritive matter, and are a very acceptable food to horses and cattle, but especially to hogs, which grub them up." I hope to get specimens from Oregon that will enable me to settle this matter. While the meadow soft grass may not make hay of the very first quality, it certainly deserves a trial, where a sod is wanted, and other grasses will not flourish, on the peaty lands along our rivers, in our mountain valleys, and in the fog belt of the northern coast.

WHAT IS MESQUITE?

A great deal of good ink and paper has been spoiled in arguing this question. According to Webster's Dictionary, this is "supposed to be a word of Indian origin." "The natives make it a word of three syllables, as mes-kē'-tā." It is the name of a shrub, or small tree, which grows in Texas, and from there south and westward. I believe it is found in the southeastern part of this State. The pods and beans of the tree are excellent forage. In Texas, there are certain fine grasses which grow habitually under and about the mesquite tree, and to distinguish them from the coarser "sage grass," and on account of their situation, they are called "mesquite grasses." The name may have at one time designated a single species, now it is applied to about a dozen grasses in Texas, belonging to several genera, and is about as definite as the term "corn," as used in Scripture, or by an old English farmer. There is no reason why meadow soft grass, which probably is not indigenous to Texas, should give up its time-honored name in favor of an indefinite barbarism. I have been told by Texans that they had never seen meadow soft grass in that State, though they were familiar with various forms of mesquite grass. On the other hand, one of the Oregon mesquite raisers says that his seed came direct from San Antonio, Texas, and was said to be native there. If his is *Holcus lanatus*, we have but to call attention again to the fact that the United States Government has for more than twenty years been distributing seeds all over the continent, to say nothing of private importations, and it is not surprising to find European grasses growing everywhere.

The whole controversy shows plainly the value of definite scientific names and descriptions. It is to be hoped that in the near future a greater proportion of our young farmers will avail themselves of the opportunities offered them, free, by our University of California. The intimate acquaintance with nature and her laws, which is cultivated in the College of Agriculture, must be an advantage in any future struggle with her, besides being a life-long source of pleasure. It certainly cannot make a man less practical to know a choice grass from a weed, a friend from a foe, in the insect world.

Those grasses on which I have written are such as I am personally acquainted with. There are many that deserve favorable notice if time would permit. Before closing I will mention, if only briefly, some of the other forage plants which have been tried in our State and approved, and some which deserve trial on account of their record elsewhere. That giant of grasses, Indian corn, is almost as generally sown for fodder as in New England, but sorghum and imphee are crowding it in popular favor, on account of smaller

stalks and sweeter juice, and an after-growth when cut green. Egyptian corn, doura, comes in and claims all the advantges of the last and the heaviest yield of grain of any cereal. These are all approved by farmers of standing.

LEGUMES.

The great pulse family (*Leguminosæ*) deserves our special thanks for its many choice gifts. They are of great value in maintaining and renewing fertility. Some of its members, as bur-clover (*Medicago denticulate*) and alfalfa (*Medicago sativa*), have enriched many in this State. The "cow-pea" of the Southern States should be tried. It is noted as forage, and to plow in green as a fertilizer.

PREVENTIVE OF HOOVE.

It is said that if, before turning cattle out to pasture on peas, clover, etc., they are fed moderately, with something else, with a large dose of salt on the feed, and then watered, there is no danger of hoove.

The carob tree (*Ceratonia siliqua L.*) is another of the leguminosæ that deserved especial attention. Its natural home, in the countries about the Mediterranean, has just such a climate as that of California. As far back as history goes, its pods have been used as fodder for horses, cattle, and swine. The pods are from six to ten inches long, and about one wide, and contain, besides the seed, a sweet pulp that is relished even by man. It is said that ship-loads of them are sent from Palestine to Constantinople, and that they are sometimes found in the fruit shops of London, under the name of "St. John's Bread." They are sometimes ground, and a sort of molasses expressed, which is used in making sweetmeats. The tree is of good size, with evergreen foliage, and will grow in almost any soil. The yield of a mature tree is given at from half a ton to more than a ton of the pods. In the southern part of Spain the blossoms appear twice each year, in February and September, and are both times followed by the fruit. For planting by the roadside, and on rough ground, there are few trees that would be likely to prove more profitable, giving shade, forage, food for man, and ultimately wood. It is closely allied to the mesquite tree, but is larger in every way and bears better fruit. About seven years ago I called public attention to this tree as a very valuable one for introduction here.

Since that time there have been several importations of so-called "carob beans," but most of them have been from the mesquite and its allies in Mexico. In Spain the name for the genuine tree is Algarrobo (from the Moorish for the "carob"), and the Spanish invaders applied it to its nearest relative which they found in the new world. With this new application its spelling has been changed to Algoroba.

Mr. Charles H. Shinn, of Niles, in this county, claims to have the true carob growing in his nursery. He bought his seed from a respectable seed dealer in the east, and kindly gives me the following directions for starting them. They will probably be found equally good for locust and other similar seeds that germinate with difficulty: "Pour scalding water over the seeds, and when cold add a spoonful of spirits of camphor. Let the water stand on the seeds for five hours."

Mangolds, sugar beets, carrots, pumpkins, and squashes are all approved forage, though it is said that the seeds of the two latter sometimes produce bad effects on cattle and poultry. They are among the few crops that can safely be counted upon to pay the rental now asked for land in this neighborhood.

And now, the short time given me in which to write on forage crops is exhausted; such is far from being the case with the subject in hand. That cannot be worn out while grass grows and water runs, or while there is need of "milk for babes and strong meat for men." Perhaps I may pursue the subject further in the future. I hope that others may give it the study which it deserves.

BERKELEY, CALIFORNIA, July 30th, 1878.

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